ROLLABOUT PACKAGE

# PCS-5100
# PCS-5100P

ROLLABOUT PROCESSOR

## PCS-P500
## PCS-P500P

DUAL MONITOR BOARD

## PCS-G500
## PCS-G500P

DUAL MONITOR BOARD

## PCS-G510
## PCS-G510P

V.35 BOARD

## PCS-I500

X.21 BOARD

## PCS-I510

RS-449 BOARD

## PCS-I520

I-MUX BOARD

## PCS-I530

# SERVICE MANUAL

1st Edition

PCS-5100 (J)
PCS-5100 (U)
PCS-5100P (CE) J, E
9-955-121-81

Sony Corporation
**Broadcasting & Professional Systems Company**

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Please add or replace the following manual with this SUPPLEMENT-1.

1. PCS-5000/5000P SYSTEM SERVICE MANUAL 1st Edition
   Part number : 9-977-634-01
2. PCS-P500/P500P SERVICE MANUAL Volume 1 1st Edition
   Part number : 9-977-640-11
3. PCS-P500/P500P SERVICE MANUAL Volume 2 1st Edition
   Part number : 9-977-640-21
4. PCS-5100/5100P SERVICE MANUAL 1st Edition
   Part number : 9-955-121-01

SUBJECT

1. PCS-5000/5000P SYSTEM SERVICE MANUAL
   SECTION 3. TROUBLESHOOTING
   (Pages 3-23 and 3-24)
   SECTION 4. PCS-5100/5100P SYSTEM CIRCUIT
   (Pages 4-1 through 4-4)

2. PCS-P500/P500P SERVICE MANUAL Volume 1 and
   PCS-5100/5100P SERVICE MANUAL
   TABLE OF CONTENTS
   (Pages 1 and 2)
   SECTION 2. SERVICE OVERVIEW
   (Pages 2-10 and 2-10-1)
   SECTION 3. CIRCUIT DESCRIPTIONS AND TROUBLESHOOTING
   (Pages 3-17 through 3-28, 3-37 through 3-53, 3-57 through 3-68, 3-71 through 3-76, 3-107 through 3-154)
   SECTION 4. ELECTRICAL ALIGNMENT
   (Pages 4-21 through 4-25)

3. PCS-P500/P500P SERVICE MANUAL Volume 2 and
   PCS-5100/5100P SERVICE MANUAL
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   (Page 1)
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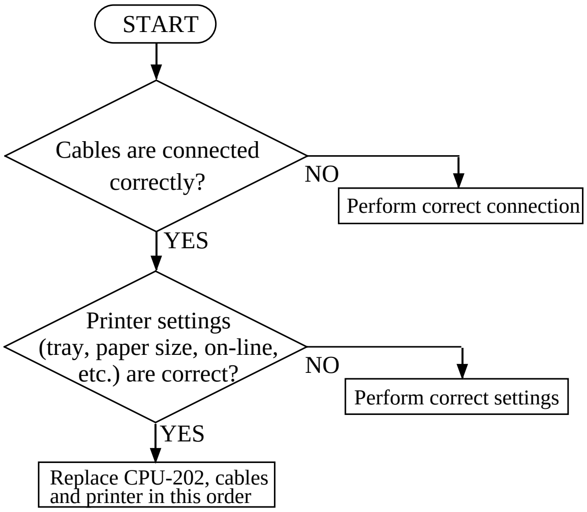
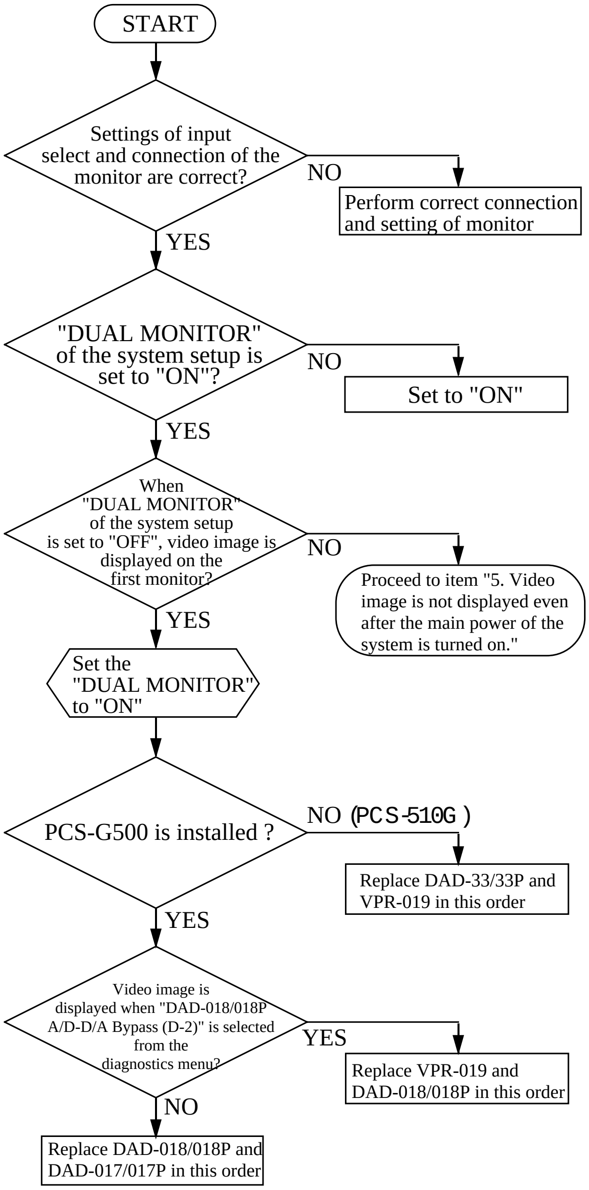
   (Pages 6-1, 6-2(a) through 6-7(a), 6-14(a) through 6-23(a), 6-72(a) through 6-87(a), 6-90(a) through 6-95(a), 6-98(a) through 6-104(a), 6-108(a) through 6-113(a), 6-116(a) through 6-127-2(a), 6-136(a) through 6-139(a), 6-142 through 6-159)
   SECTION 7. SPARE PARTS
   (Pages 7-53 through 7-88)

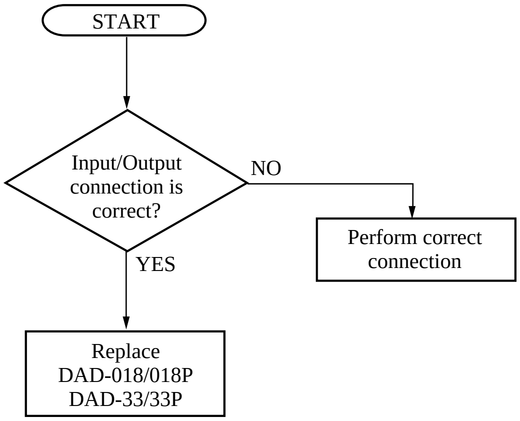
### 19. Cannot print.


START
Cables are connected correctly?
NO
Perform correct connection
YES
Printer settings (tray, paper size, on-line, etc.) are correct?
NO
Perform correct settings
YES
Replace CPU-202, cables and printer in this order

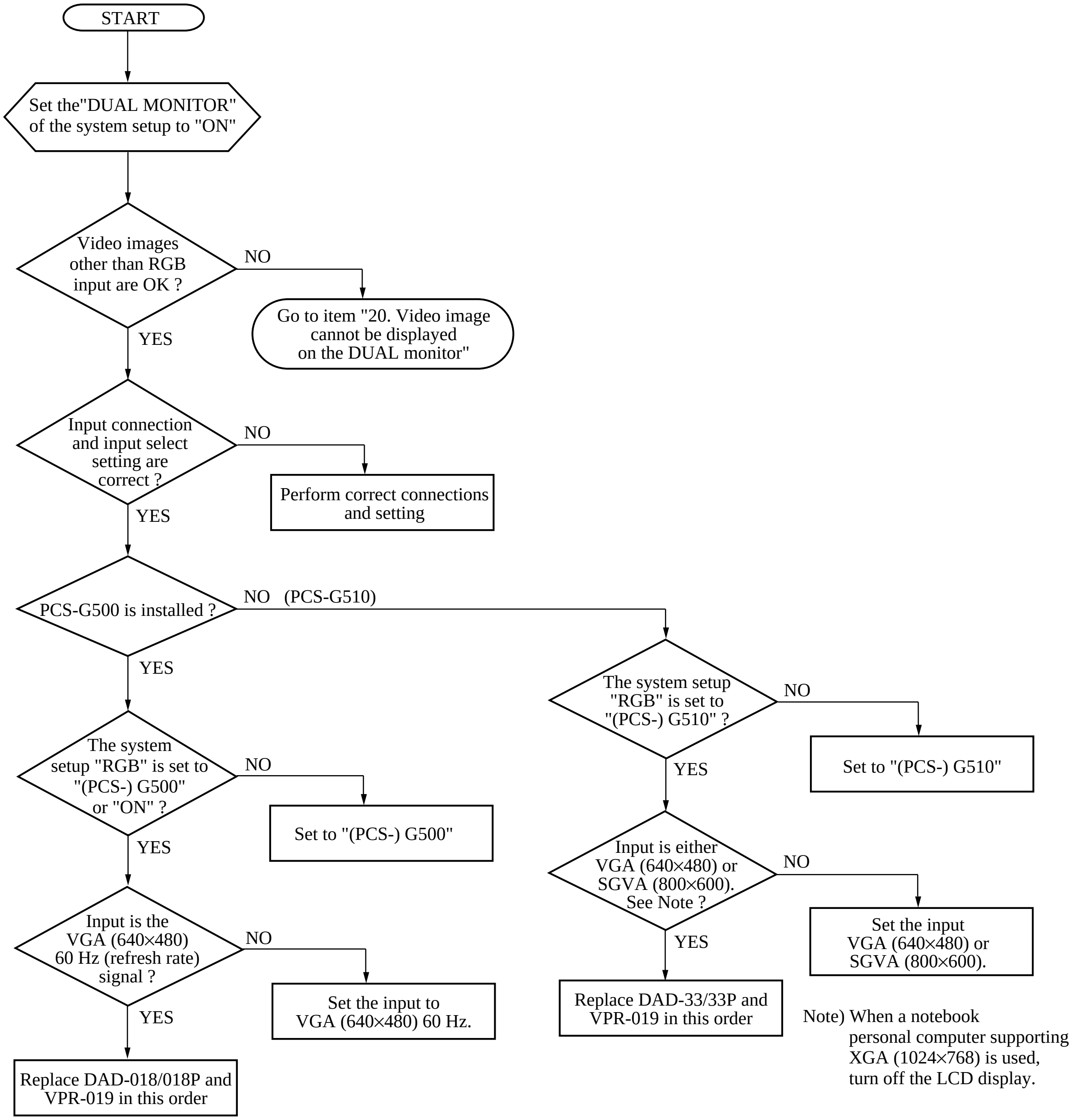
### 20. Video image cannot be displayed on the DUAL monitor.


START
Settings of input select and connection of the monitor are correct?
NO
Perform correct connection and setting of monitor
YES
"DUAL MONITOR" of the system setup is set to "ON"?
NO
Set to "ON"
YES
When "DUAL MONITOR" of the system setup is set to "OFF", video image is displayed on the first monitor?
NO
Proceed to item "5. Video image is not displayed even after the main power of the system is turned on."
YES
Set the "DUAL MONITOR" to "ON"
PCS-G500 is installed ?
NO (PCS-510G )
Replace DAD-33/33P and VPR-019 in this order
YES
Video image is displayed when "DAD-018/018P A/D-D/A Bypass (D-2)" is selected from the diagnostics menu?
YES
Replace VPR-019 and DAD-018/018P in this order
NO
Replace DAD-018/018P and DAD-017/017P in this order

### 21. The picture of the RGB MONITOR OUT cannot be displayed.


START
Input/Output connection is correct?
NO
Perform correct connection
YES
Replace DAD-018/018P DAD-33/33P

### 22. The RGB IN picture cannot be displayed on video monitor.


START
Set the"DUAL MONITOR" of the system setup to "ON"
Video images other than RGB input are OK ?
NO
Go to item "20. Video image cannot be displayed on the DUAL monitor"
YES
Input connection and input select setting are correct ?
NO
Perform correct connections and setting
YES
PCS-G500 is installed ?
NO (PCS-G510)
YES
The system setup "RGB" is set to "(PCS-) G500" or "ON" ?
NO
Set to "(PCS-) G500"
YES
Input is the VGA (640×480) 60 Hz (refresh rate) signal ?
NO
Set the input to VGA (640×480) 60 Hz.
YES
Replace DAD-018/018P and VPR-019 in this order
The system setup "RGB" is set to "(PCS-) G510" ?
NO
Set to "(PCS-) G510"
YES
Input is either VGA (640×480) or SGVA (800×600). See Note ?
NO
Set the input VGA (640×480) or SGVA (800×600).
YES
Replace DAD-33/33P and VPR-019 in this order

Note) When a notebook personal computer supporting XGA (1024×768) is used, turn off the LCD display.

# SECTION 4
# OUTLINE OF PCS-5100/5100P SYSTEM OPERATION AND BLOCK DIAGRAMS

## 4-1. OUTLINE OF PCS-5100/5100P SYSTEM OPERATION

The PCS-5100/5100P system consists of the rollabout processor, camera unit, audio unit and remote commander. The operations of the main circuit boards used in the rollabout processor, camera unit and audio unit are outlined below. Refer to the separate service manual of the respective equipment for more details.

### 4-1-1. Rollabout Processor

#### 1. CPU-202 board

The CPU-202 board controls the entire rollabout processor. It performs various controls such as interrupt, DMA, memory control and power management in STANDBY mode. It is equipped with a bus line to control other circuit boards.
The CPU-202 board has four RS-232C ports for an external interface, which is used to send and receive commands to and from the camera unit, receive signals from the drawing tablet, send signals for VID control, send and receive user data, and send and receive the port for external control commands.
The CPU-202 board has Centronix interface for the printer port, and the PCMCIA interface for the PC card control. Because this board controls the other circuit boards via the bus line, it is difficult to repair the system if an error occurs in this board.

#### 2. IF-540/540P board

The IF-540/540P board performs the communication control with the ISDN line. The board controls calling of the other terminal. When a call is established, a send signal is output from the VPR-019 board and the received signal is input to the VPR-019 board. If the block becomes defective, the ISDN line cannot be connected.

#### 3. VPR-019 board

The operation of the VPR-019 board mainly depends on a Vision Compression Processor chips, and has the following functions:

a) Sends and receives data to and from the IF-540/540P or IF-541/542/543 board connected to the line. Also has an H.221 function, which multiplexes and demultiplexes the video and audio signals.
b) Converts the signals (Y, B-Y and R-Y) input from the DAD-017/017P board to the intermediate format called CIF, codes motion pictures using the H.261 system, and decodes motion pictures using the H.261 so that the Y, U and V signals are output to the DAD-017/017P board.
c) Codes the signal input from the DAD-017/017P or DAD-018/018P/DAD-33/33P board in JPEG. Codes the data read from the scanner in MMR. The display signal is output to the DAD-017/017P or DAD-018/018P/DAD-33/33P boards.
d) A LAP-B function, which packs the data into packets so that JPEG and MMR data are sent and received.
e) Audio signal interface with the APR-011 board. The audio signal is multiplexed and demultiplexed by the H.221 function.
f) Some external interface S are equipped; the SCSI port to which the scanner is connected, receiving the SIRCS input signal from the camera unit, and IR output for monitor control.

If the VPR-019 board becomes defective, the major functions such as video image display and communication are disabled.

#### 4. DAD-017/017P board

The DAD-017/017P board processes the video signal input and output with the external equipment and controls the display of the menu screens. The DAD-017/017P board receives three Y/C system inputs (including camera unit) and one composite input. The DAD-017/017P board provides one Y/C and composite output respectively.

a) Regarding the input signals, from three Y/C input signals and one Y/C separated output from the composite signal, one signal is selected for motion pictures and still pictures in single monitor mode, and two signals are selected in dual monitor mode. The selected signal is passed through the decoder and A/D converter. The signals are sent to the VPR-019 board as the digital Y, U and V signals.

b) Regarding the output signals, the menu display is controlled by the bus signal supplied from the CPU-202 board. The menu data adds the signal input from the VPR-019 board to constitute a set of digital Y, U and V signals, which is passed through the encoder and D/A converter. The passed signal is supplied to external devices in two forms: as an analog Y/C signal and as a composite signal.

### 5. APR-011 board

The APR-011 board performs two kinds of audio signal processing: the echo canceling and the audio coding. The coding systems of G.711, G.722 and G.728 are supported.

a) The microphone audio signal, which is input from the audio unit, is A/D converted, processed by the echo canceller, then sent to the codec block. The coded data is sent to the VPR-019 board.
b) The coded audio data, which is received from the other (remote) terminal via the VPR-019 board, is decoded by the codec block, sent to the echo canceller, D/A converted and sent to the audio unit as the output signal to the speaker.

### 6. DAD-018/018P board (PCS-G500/G500P)

The DAD-018/018P board supports dual monitor specifications and one channel of RGB input. It also has one channel of Y/C output, which is exclusively for still pictures or the self-picture display. The signal which is selected independently from the motion picture on the DAD-017/017P board, or the VGA signal (the horizontal sync frequency is 31.47 KHz and the resolution is 640 dots × 480 lines or 640 dots × 400 lines) which is input to DAD-018/018P board, is A/D converted for the still picture and output to the VPR-019 board. The output signal of either still picture or the self-picture from the VPR-019 board, is encoded, D/A converted and output to external equipment as an analog Y/C signal.

### 7. IF-541/IF-542/IF-543 board (PCS-I510/PCS-I500/PCS-I520)

One of these boards is installed according to the leasted line. The send signal supplied from the VPR-019 is converted to the signal having the electrical characteristics suited for each leasted line. The received signal from each leasted line is sent to the VPR-019 board.

### 8. IF-583 board (PCS-I530)

The IF-583 board is installed on the IF-540/540P board and performs the B1 BONDING function. The demultiplexed signals supplied from the ISDN lines through the IF-540/540P board are multiplexed into a signal of one line, which is then sent to the VPR-019 board. The signal from the VPR-019 board is demultiplexed to the respective ISDN lines.

### 9. Power supply unit

Electrical power is supplied to the rollabout processor, camera unit, audio unit and drawing tablet all from this power supply unit. The power switch, AC inlet and AC outlet (AC outlet is equipped only for PCS-P500/P500P) are unified into this unit. When the power switch on the front panel of the rollabout processor is turned on, power is supplied to the entire unit. When the system initialization is completed, the system enters power down mode, in which +5 V only is supplied; this is actually the STANDBY state. When the input signal from the remote commander or from the SYSTEM ON switch of the audio unit is sensed, the startup signal is output to the power supply unit and all power supplies are turned on.

### 10. DAD-33/33P board (PCS-G510/G510P)

The DAD-33/33P board supports dual monitor specifications and video input from personal computer. It has one channel respectively of Y/C output of still picture or self-picture display, RGB input and RGB through output.

The still picture or the self-picture that is output from the VPR-019 board, is encoded and D/A converted by this board and is sent to external equipment as the analog YC signal. At the same time, this board A/D-converts and down-converts the input signals such as video signal from personal computer, the VGA (640×480) signal and the SVGA (800×600) signal, into the same format as the other video signals, and are sent to the VPR-019 board.

(PCS-5000 and PCS-5100/1 are not supported.)

## 4-1-2. Camera Unit

### Circuit Board Configuration

| | |
|---|---|
| MT-112P board | : Pan motor |
| MT-112T board | : Tilt motor |
| SE-271P board | : Pan pulse sensor |
| SE-271T board | : Tilt pulse sensor |
| SE-273P1 board | : Pan position sensor |
| SE-273T1 board | : Tilt position sensor |
| SE-274P2 board | : Pan position sensor |
| SE-274T2 board | : Tilt position sensor |
| SY-218 board | : System controller |

The camera unit receives the commands from the processor (PCS-P500/P500P) and controls the focus and zoom of the camera block. It also controls the camera pan and tilt head.

The SY-218 board is the main controller of the camera unit. The commands which are supplied from the processor (PCS-P500/P500P) through the RS-232C are decoded in the SY-218 board. If the decoded signal is a command for the camera block control, the zoom/focus control signals are sent to the camera block as a LANC signal. If the decoded signal is a command for the pan and tilt head, the pan and tilt motors are operated.

The limits of vertical movements and horizontal movements are sensed by the sensors on the SE-273T1 and SE-274T2 boards in the vertical (tilt) direction, and on the SE-273P1 and SE-274P2 boards in the horizontal (pan) direction.

In addition, the camera unit has a preset function in which up to six pan and tilt head and zoom positions can be stored in memory and recalled at any time. The number of pulses which are output from the SE-271P and SE271T boards are counted by the SY-218 board, and memorized as the pan and tilt position data. The preset function is also executed by the commands supplied from the processor (PCS-P500/P500P).

## 4-1-3. Audio Unit

### 1. MA-70 board

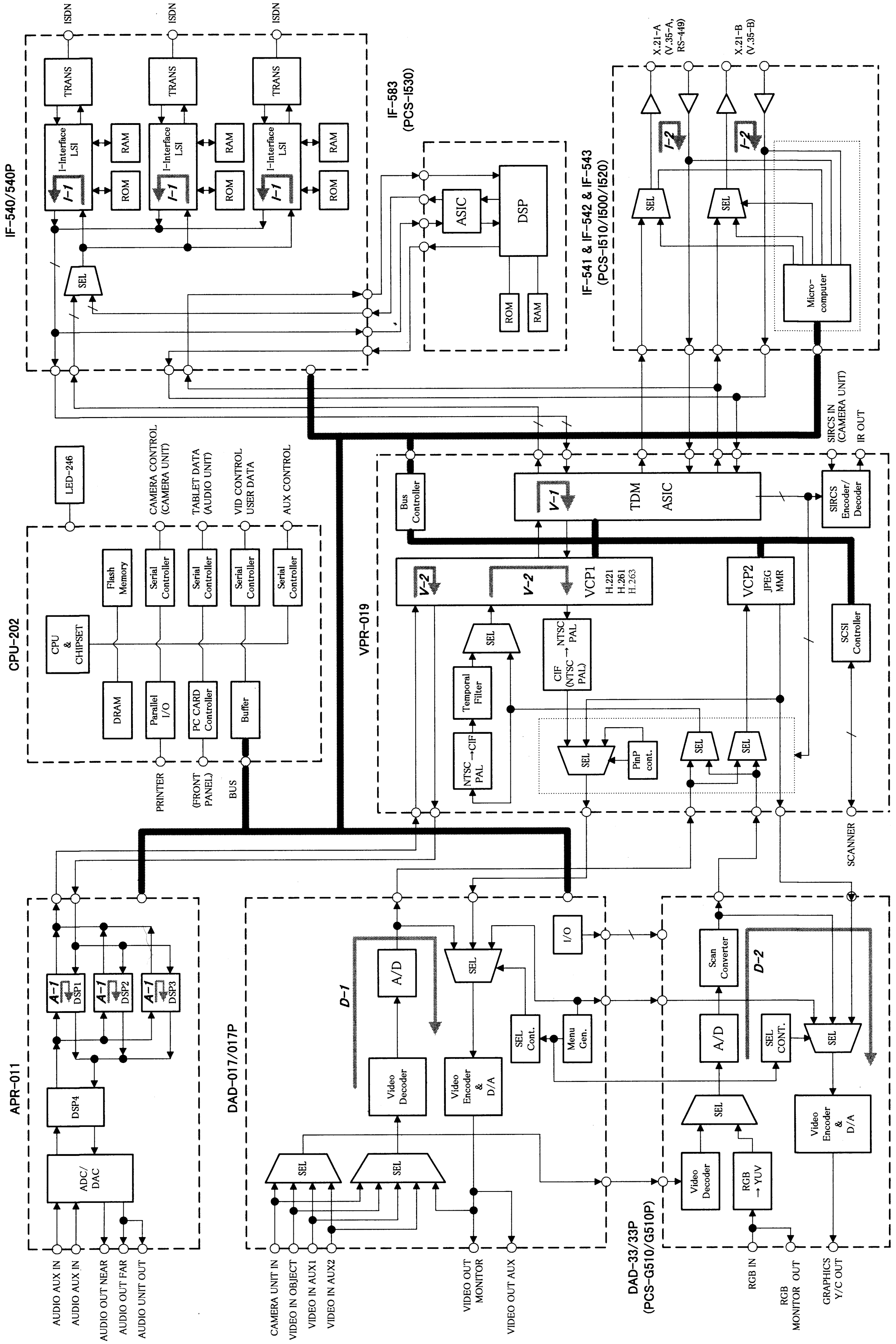
- The analog signal process is performed in the audio unit, which cancels the direct sound from the speaker unit (in the audio unit) using the two microphone units. The equalizer circuit is used so that the input voice of microphone is transmitted clearly to the listeners.
- The main unit (PCS-A500) receives the audio signal from the sub unit with the balanced-type circuit, where common noise is canceled, and as many audio signals as the number of units are synthesized and output to the processor (PCS-P500/P500P) in the balanced-type signal.
- The sub unit (PCS-A510) has the same circuit as the main unit except that the balanced input circuit and the synthesizer circuit are not installed.

### 2. AA-84 board

The AA-84 board receives the input signal from the processor with the balanced-type circuit, converts the signal from the balanced-type to the unbalanced-type, and uses the 3-band equalizer to obtain the best acoustic characteristics. The BTL amplifier is used in the output stage to drive the speaker.

### 3. CN-1214 and LED-244 boards.

The CN-1214 board has connectors for connecting external equipments, diodes for protecting the internal circuit from static electricity, and the LED control circuit which is exclusively in the main unit. The LED-244 board is installed only in the main unit. The “POWER” and “STANDBY” LEDs, and the processor system on switch are installed in the board.


IF-540/540P
ISDN
ISDN
ISDN
TRANS
TRANS
TRANS
I-Interface LSI
I-Interface LSI
I-Interface LSI
I-1
RAM
ROM
SEL
IF-583 (PCS-I530)
ASIC
DSP
ROM
RAM
IF-541 & IF-542 & IF-543 (PCS-I510/I500/I520)
X.21-A (V.35-A, RS-449)
X.21-B (V.35-B)
I-2
SEL
Micro-computer
LED-246
CPU-202
CAMERA CONTROL (CAMERA UNIT)
TABLET DATA (AUDIO UNIT)
VID CONTROL USER DATA
AUX CONTROL
Flash Memory
Serial Controller
CPU & CHIPSET
DRAM
Parallel I/O
PC CARD Controller
Buffer
PRINTER
(FRONT PANEL)
BUS
VPR-019
SIRCS IN (CAMERA UNIT)
IR OUT
Bus Controller
TDM ASIC
V-1
SIRCS Encoder/Decoder
V-2
VCP1 H.221 H.261 H.263
VCP2 JPEG MMR
SCSI Controller
Temporal Filter
CIF (NTSC PAL) → NTSC PAL
NTSC → CIF PAL
PinP cont.
SCANNER
APR-011
A-1
DSP1
DSP2
DSP3
DSP4
ADC/DAC
AUDIO AUX IN
AUDIO AUX IN
AUDIO OUT NEAR
AUDIO OUT FAR
AUDIO UNIT OUT
DAD-017/017P
D-1
A/D
Video Decoder
Video Encoder & D/A
SEL Cont.
Menu Gen.
I/O
CAMERA UNIT IN
VIDEO IN OBJECT
VIDEO IN AUX1
VIDEO IN AUX2
VIDEO OUT MONITOR
VIDEO OUT AUX
DAD-33/33P (PCS-G510/G510P)
D-2
Scan Converter
SEL CONT.
RGB → YUV
RGB IN
RGB MONITOR OUT
GRAPHICS Y/C OUT

PCS-P500/P500P Block Diagram

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## Volume 2

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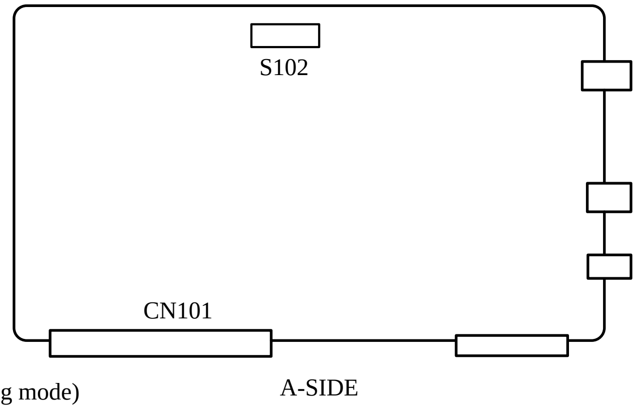
4. APR-011 board

Be sure to operate the following switches before turning on the main power because the following switches are referred to only when the POWER switch is turned on. All the menu operations to the echo canceller mode from the display are invalid when this switch is set in the mode II or III position except the setting when shipped from the factory.

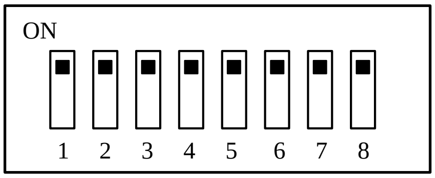


I. Audio Unit In-Use Mode

(Internal echo canceller is set in the single VCR mode: Factory setting mode)

This mode presumes that the audio unit is used. When AUX or AUX + MIC is selected as the audio input, the NEAR and the FAR audio output are muted. The mute is performed to prevent occurrence of howling due to a loop that is formed inside the VCR between the audio input and output.

S102: Mode setting switch



(Set the switches S102-1 to S102-8 to ON)

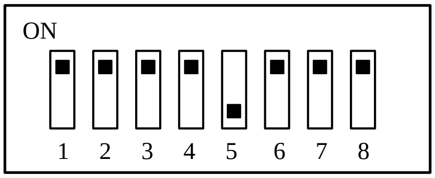
(Factory default position)

II. Audio Unit Not-Used Mode

(Internal echo canceller is set in the dual VCR mode)

This mode presumes that the audio unit is not used. When AUX or AUX + MIC is selected as the audio input, the NEAR and the FAR audio output are not muted. This mode is suited when you want to use the optional microphone and speaker that are connected to the audio unit terminal and the FAR audio output. This mode is also suited to perform the simultaneous recording of the externally connected multiple VCRs and the simultaneous playback. Do not use this mode when the AUX input of a VCR is connected to either one or to both of the NEAR and FAR audio output.

S102: Mode setting switch



(Set the switches S102-1 to S102-4 to ON. Set the switch S102-5 to OFF. Set the switches S102-6 to S102-8 to ON.)

III. External Echo Cancellor Mode

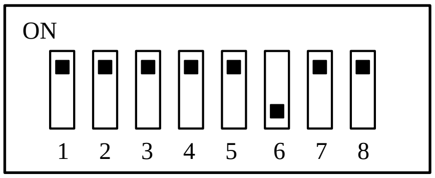
This mode disables the internal echo cancellor, but the volume control and the microphone mute control can be used.

The AUX audio input signal is sent to the audio encoder input.

The FAR audio output signal is input from the audio decoder.

In addition, because the FAR audio output signal is sent to the audio unit speaker, the audio unit must be installed in a location that is as far as possible from the microphone that is connected to the external echo cancellor.

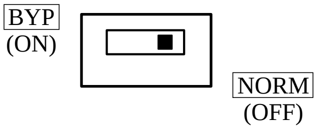
S102: Mode setting switch

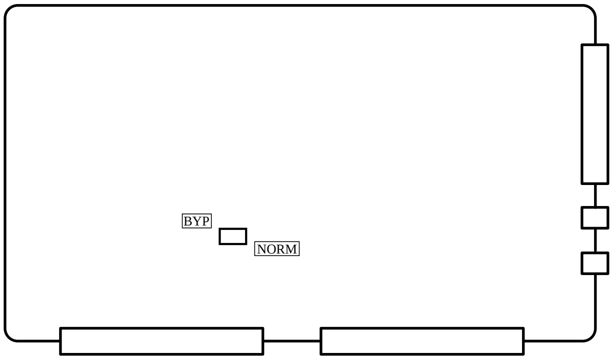


(Set the switches S102-1 to S102-5 to ON. Set the switch S102-6 to OFF. Set the switches S102-7 and S102-8 to ON.)

5. VPR-019 board

S001 : NORMAL / BYPASS switch
UC : S/N 23001 through 23140
CE : S/N 53100 thorugh 53180
NORM : During normal operation
Factory default position
BYP : 1st-VCP





A-SIDE

## 3-3. OUTLINE OF APR-011 BOARD OPERATION

The APR-011 board circuit processes the audio signal of the PCS-P500/P500P.
The APR-011 board send and receives the audio code and code mode to and from the VPR-019 board. The APR-011 board also controls operation and monitors status of the DSPs and peripheral circuit.
The APR-011 board has three encoders, three decoders and one echo canceller.

The APR-011 board is divided into the following groups when viewed from its function.

### 1. Audio Codec 1 (audio codec block)

Outline of function :

This is a point-to-point codec with one encoder and one decoder (G.711, G.722 and G.728). In case of the point-to-point connection mode, it codec the transmitting signal from this station and sends it to the VPR-019 board, while the received signal from the other terminal is picked up from the VPR-019 board, decoded and sent to the echo canceller.

In case of the multi-point connection mode, it codec the transmitting signal from this station and sends it to the VPR-019 board, while the received signal from one of the other terminal is picked up from the VPR-019 board, decoded and sent to the echo canceller, being multiplexed with signals from the other audio codec (s).

In addition to the codec, several signal processing have been implemented; DTMF generator, sampling rate converter and others.

Main part :

DSP#1 (IC210) : Codec processor

### 2. Audio Codec 2 (multi-point connection codec block)

Outline of function :

This codec is used only in case of the multi-point connection. In case of the multi-point connection, this codec works in the same as Audio Codec 1.

If IC230 is not on the APR-011 board, IC220 works as both Audio Codec 2 and 3 (in this case, IC220 is 1-chip “Dual-Codec”).

Main part :

DSP#2 (IC220) : Codec processor

### 3. Audio Codec 3 (point-to-point codec block)

Outline of function :

This is also a point-to-point codec which is used only in case of the multi-point connection, the same as Audio Codec 2.

Main part :

DSP#2 (IC220) : Codec processor (if IC230 is not on the APR-011 board)
DSP#4 (IC230) : Codec processor (if IC230 does be on the APR-011 board)

### 4. Echo Cancellation (acoustic echo canceling block)

Outline of function :

Acoustic echo is removed from the microphone input signal, then adds or selects the input signal from the AUDIO IN (AUX) as requested by user. The transmitting signal is thus formulated and sent to the point-to-point codec (s).

In case of the multi-point connection mode, the decoded signals from the codecs are then mixed in this block, and if necessary, auto speech detection is performed for selecting the station where a speech is made. And the transmitting signals are distributed into each codec (encoder) respectively.

The audio delay for the lip synchronization with video is inserted to transimtting signal as required.

Main parts :

DSP#3 (IC320) : Echo canceller
SRAM (IC321, 322, 323) : External memory for DSP#3 data processing

## 5. AD/DA Conversion (analog/digital conversion block)

Outline of function:

This is the analog/digital signal converter, which is placed between the analog process block and the acoustic echo process block.

2 channels (microphone and AUDIO IN AUX) of A/D conversion

2 channels (speaker and AUDIO OUT (FAR) common, and AUDIO OUT (NEAR)) of D/A conversion

Main part :

ADC/DAC (IC4) : AD/DA converter

## 6. CPU Interface (CPU interface block)

Outline of function :

This is the 8-bit parallel bus interface between the CU-202 board and other circuit boards.

The CPU interface block has the function of downloading, self-diagnostics, DSPs operation control, DSP status monitor and analog mute for the DSPs and their peripheral circuit.

Main parts :

PLD#1 (IC110) : Address decoder
Transceiver (IC103 and 202) : Data bus and transceiver
D-type flip flop (IC111) : Received data transfer

## 7. Timing Generation (serial signal timing generation block)

Outline of function :

Generation of the timing signals such as clock and sync to be used for sending and receiving the serial signals between the AD/DA, DSPs and connector CN2.

Main parts :

PLD#2 (IC310) : Timing generator
PLL (IC300) : Reference signal (8.192 MHz) generator

## 8. Analog Circuit (analog process block)

Outline of function :

This circuit performs interface between the MIC/LINE level and the ADC/DAC level.

Analog mute is performed by the control of the CPU interface block.

Main parts :

Op-amp (IC407) : Gain amplifier for transmitting signal
Op-amp (IC409) : Gain amplifier for receiving signal
CPU output mute (Q401, 402, 403 and 404) : Mute circuit for all outputs
AUX output mute (Q403 and 404) : Mute circuit for the auxiliary outputs

## 9. Power Management (analog power supply monitoring circuit)

Output of function :

This circuit monitors the analog power supply voltage and controls the output of the analog power supply/digital power supply interface device using the sleep signal.

In addition, this controls the output of the crystal oscillator for DSPs (IC210, 220 and 230) clock.

Main part :

Power Manager (IC405) : Analog power supply monitoring

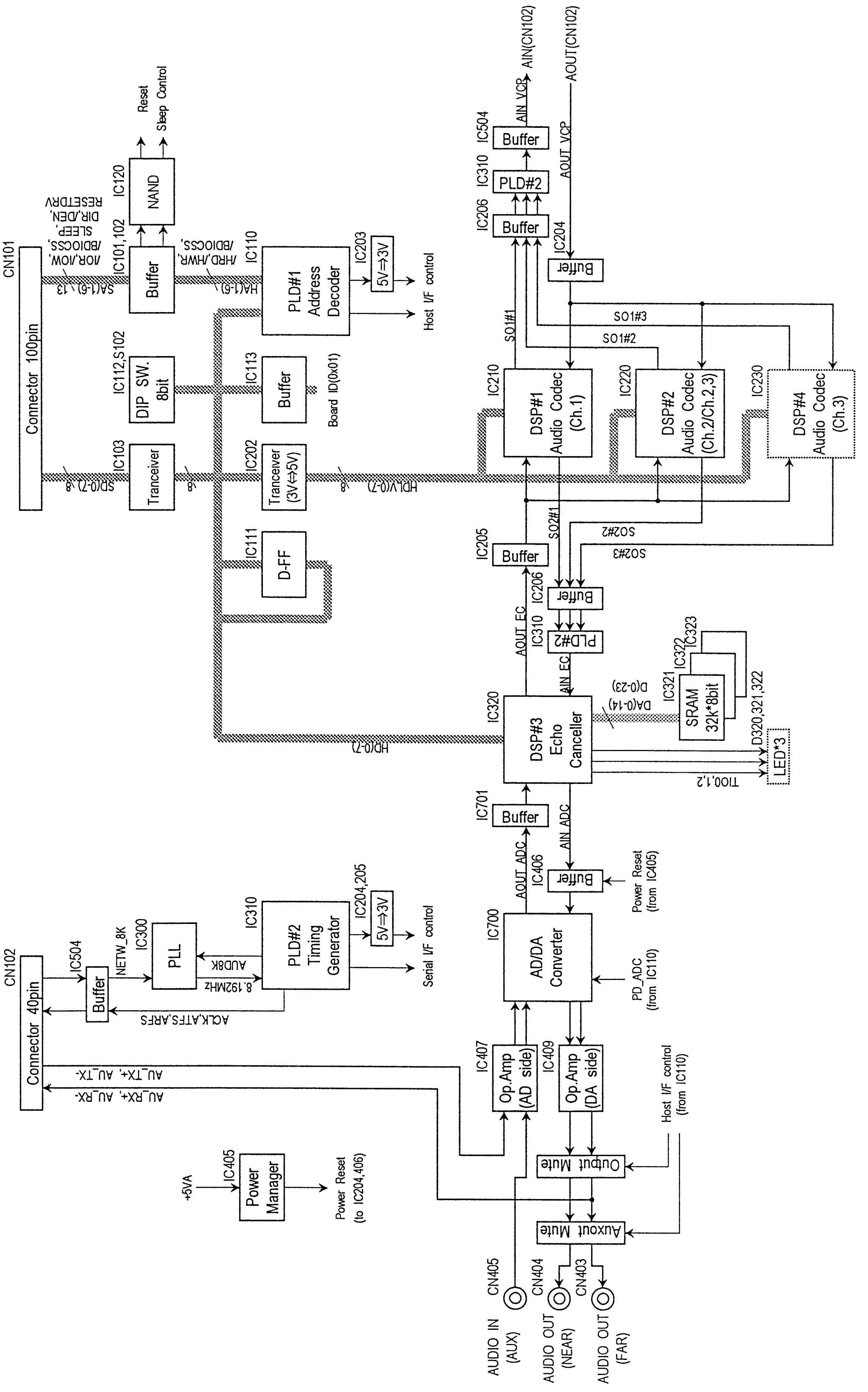

CN101
Connector 100pin
SA(1-6) 13
/IOR,/IOW,
/BDIOCSS,
SLEEP,
DIR,/DEN,
RESETDRV
IC101,102
Buffer
IC120
NAND
Reset
Sleep Control
/HRD,/HWR,
/BDIOCSS,
HA(1-6)
IC110
PLD#1
Address
Decoder
IC203
5V⇒3V
Host I/F control
IC112,S102
DIP SW.
8bit
IC113
Buffer
Board ID(0x01)
IC103
Tranceiver
SD(0-7) 8
8
IC202
Tranceiver
(3V⇔5V)
8
HDLY(0-7)
IC111
D-FF
HD(0-7)
IC504
Buffer
AIN VCP
AIN(CN102)
AOUT(CN102)
AOUT VCP
IC310
PLD#2
IC206
Buffer
IC204
Buffer
SO1#1
SO1#2
SO1#3
IC210
DSP#1
Audio Codec
(Ch.1)
IC220
DSP#2
Audio Codec
(Ch.2/Ch.2,3)
IC230
DSP#4
Audio Codec
(Ch.3)
IC205
Buffer
SO2#1
SO2#2
SO2#3
IC206
Buffer
IC310
PLD#2
AOUT EC
AIN EC
IC320
DSP#3
Echo
Canceller
D(0-23)
DA(0-14)
IC321
IC322
IC323
SRAM
32k*8bit
D320,321,322
LED*3
TIO0,1,2
IC701
Buffer
AOUT ADC
AIN ADC
IC406
Buffer
Power Reset
(from IC405)
IC700
AD/DA
Converter
PD_ADC
(from IC110)
CN102
Connector 40pin
IC504
Buffer
NETW_8K
IC300
PLL
AUD8K
8.192MHz
IC310
PLD#2
Timing
Generator
IC204,205
5V⇒3V
Serial I/F control
ACLK,ATFS,ARFS
AU_TX+, AU_TX-
AU_RX+, AU_RX-
IC407
Op.Amp
(AD side)
IC409
Op.Amp
(DA side)
Output Mute
Host I/F control
(from IC110)
Auxout Mute
+5VA
IC405
Power
Manager
Power Reset
(to IC204,406)
CN405
CN404
CN403
AUDIO IN
(AUX)
AUDIO OUT
(NEAR)
AUDIO OUT
(FAR)

Fig. 3-3-1 APR-011 Board Block Diagram

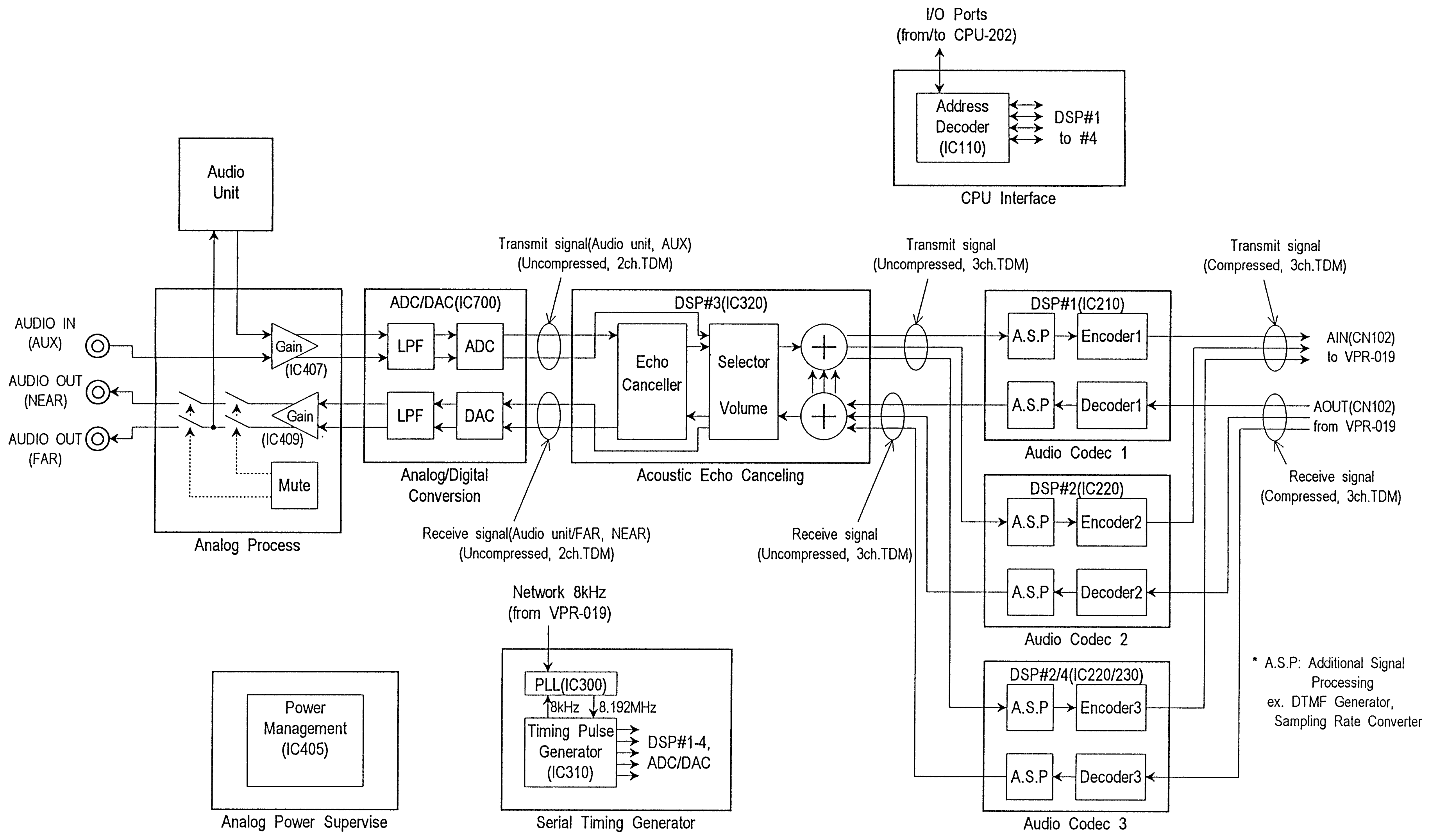

I/O Ports
(from/to CPU-202)
Address
Decoder
(IC110)
DSP#1
to #4
CPU Interface
Audio
Unit
AUDIO IN
(AUX)
AUDIO OUT
(NEAR)
AUDIO OUT
(FAR)
Gain
(IC407)
Gain
(IC409)
Mute
Analog Process
ADC/DAC(IC700)
LPF
ADC
LPF
DAC
Analog/Digital
Conversion
Transmit signal(Audio unit, AUX)
(Uncompressed, 2ch.TDM)
Receive signal(Audio unit/FAR, NEAR)
(Uncompressed, 2ch.TDM)
DSP#3(IC320)
Echo
Canceller
Selector
Volume
Acoustic Echo Canceling
Transmit signal
(Uncompressed, 3ch.TDM)
Receive signal
(Uncompressed, 3ch.TDM)
DSP#1(IC210)
A.S.P
Encoder1
A.S.P
Decoder1
Audio Codec 1
DSP#2(IC220)
A.S.P
Encoder2
A.S.P
Decoder2
Audio Codec 2
DSP#2/4(IC220/230)
A.S.P
Encoder3
A.S.P
Decoder3
Audio Codec 3
Transmit signal
(Compressed, 3ch.TDM)
AIN(CN102)
to VPR-019
AOUT(CN102)
from VPR-019
Receive signal
(Compressed, 3ch.TDM)
* A.S.P: Additional Signal
Processing
ex. DTMF Generator,
Sampling Rate Converter
Network 8kHz
(from VPR-019)
PLL(IC300)
8kHz
8.192MHz
Timing Pulse
Generator
(IC310)
DSP#1-4,
ADC/DAC
Serial Timing Generator
Power
Management
(IC405)
Analog Power Supervise

Fig. 3-3-2 APR-011 Board Signal Flow

## 3-4. APR-011 BOARD TROUBLESHOOTING

When an error occurs in the APR-011 board, use the flow chart as shown to locate the cause of trouble.

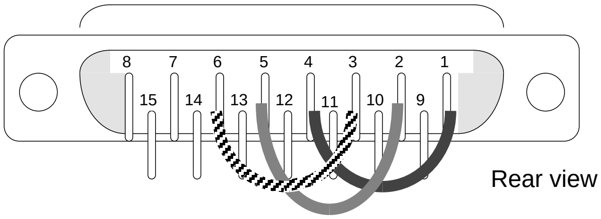
**[Equipment required]**

- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Oscilloscope
- Video monitor
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

**[Service tools]**

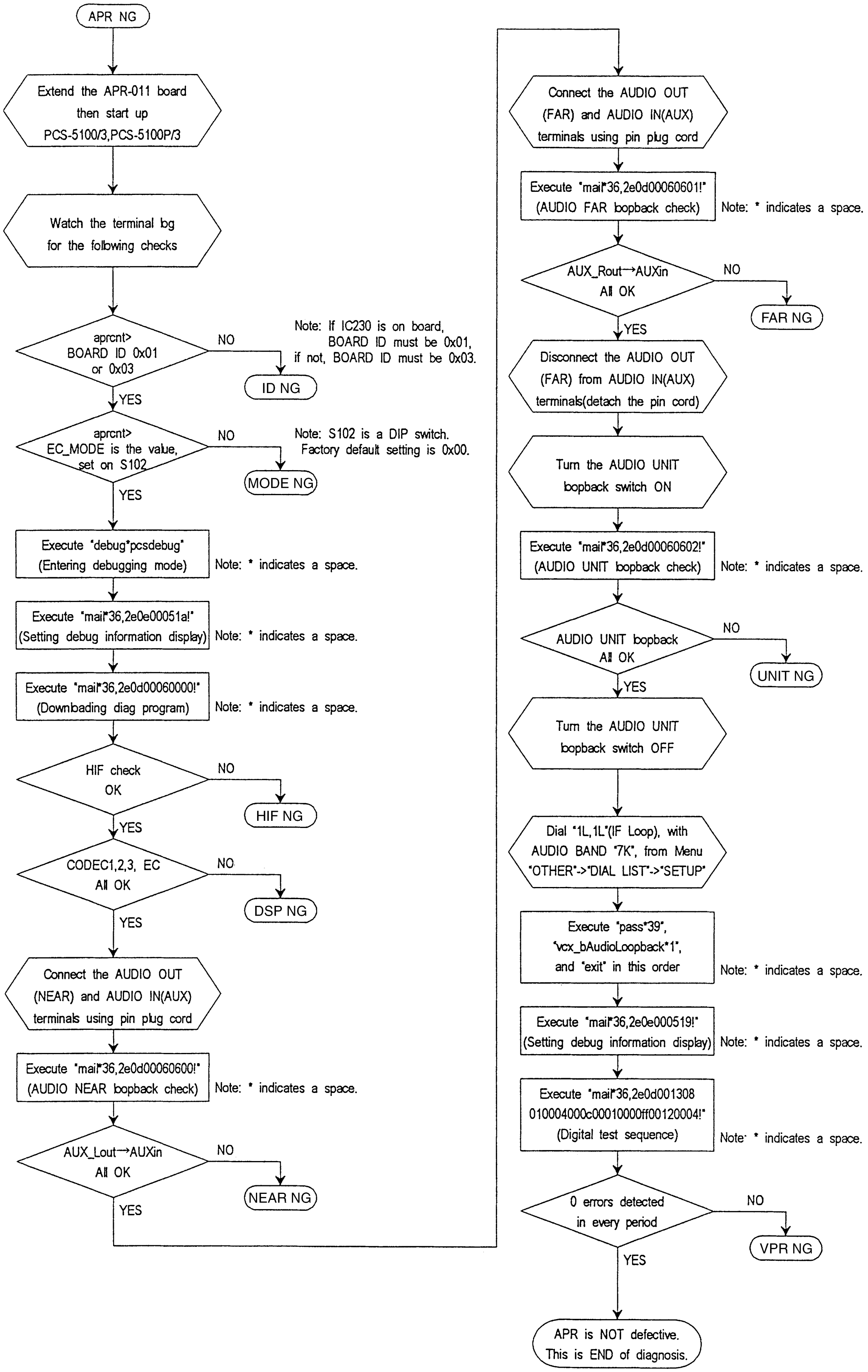
- VH-951 extension board (Sony part number: J-6389-510-A)
- RS-232C terminal (PC/AT compatible machine with communication software "CCT")
- RS-232C cross cable
- Pin plug cord
- S cable
- Loop connector (as shown below): for Loop back

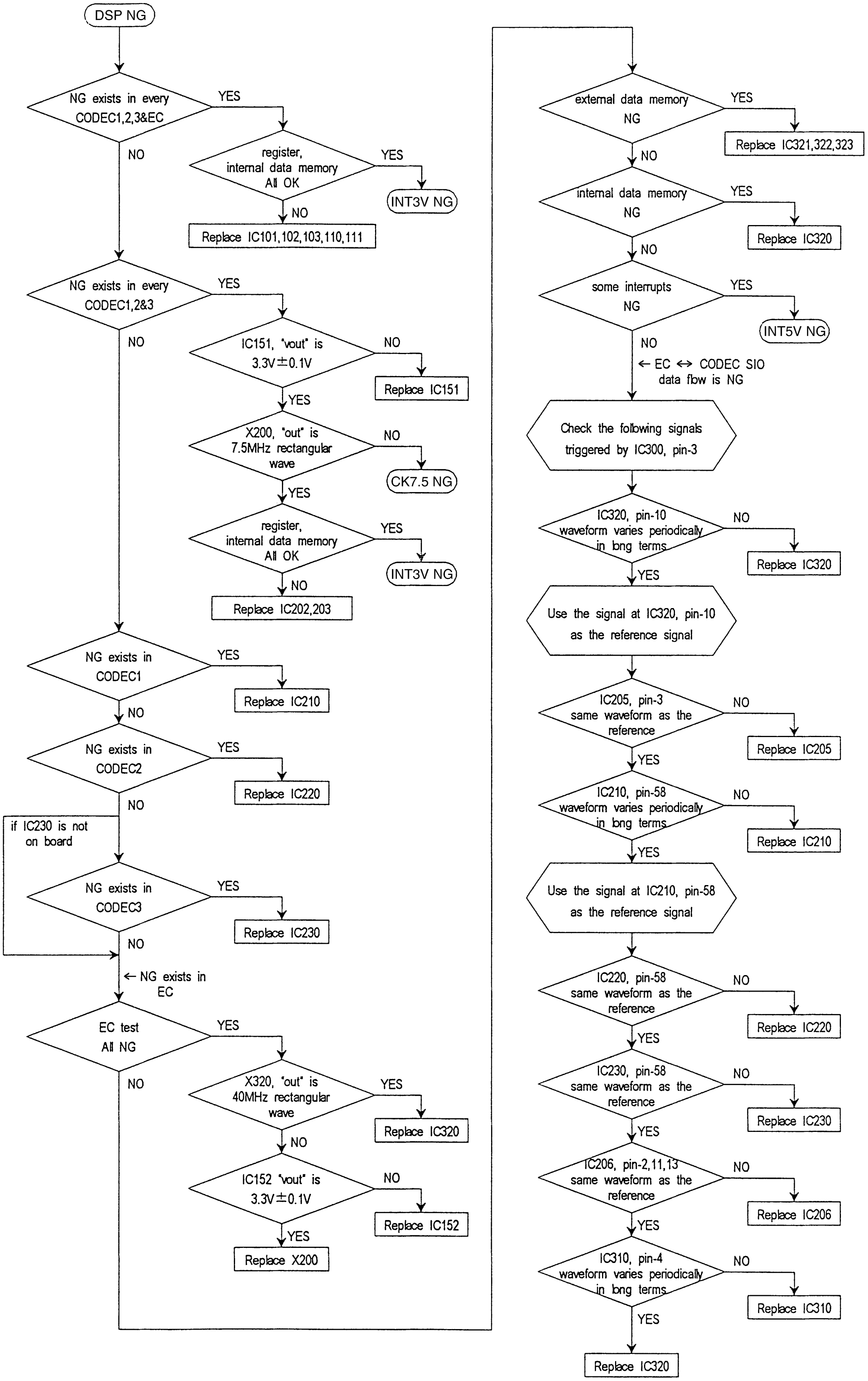
D-sub 15-pin plug (1-764-123-12)
Connect 1 and 4 pins, 2 and 5 pins, and 3 and 6 pins
respectively using jumpers and soldering connection.

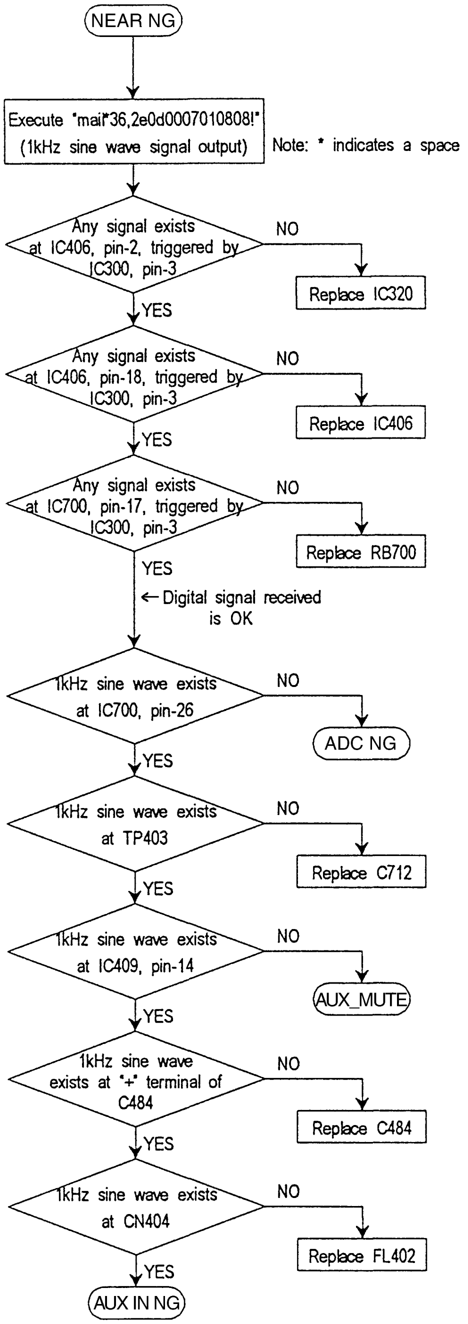


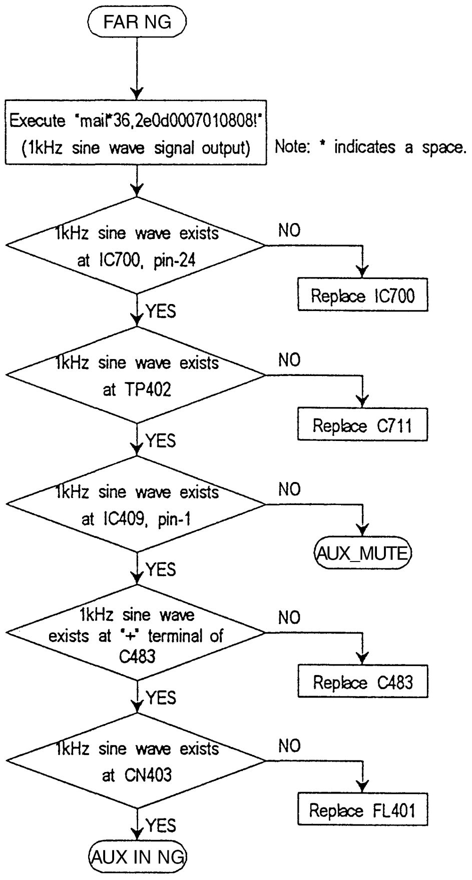
**[Preparation]**

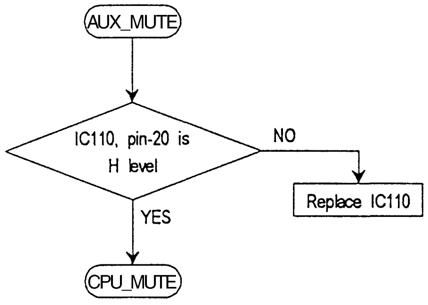
1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the APR-011 board.
3) Insert the APR-011 board to the extension board.
4) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
5) Start up the communication software "CCT" which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
6) Turn on the main power from the remote commander (PCS-R500).

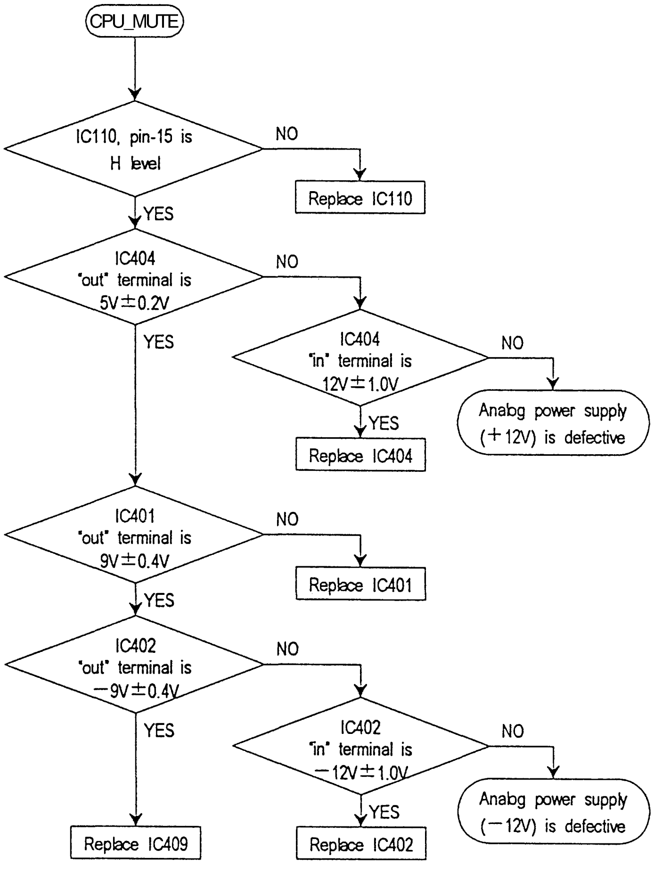

APR NG
Extend the APR-011 board then start up PCS-5100/3,PCS-5100P/3
Watch the terminal log for the following checks
aprcnt> BOARD ID 0x01 or 0x03
NO
ID NG
Note: If IC230 is on board, BOARD ID must be 0x01, if not, BOARD ID must be 0x03.
YES
aprcnt> EC_MODE is the value, set on S102
NO
MODE NG
Note: S102 is a DIP switch. Factory default setting is 0x00.
YES
Execute "debug*pcsdebug" (Entering debugging mode)
Note: * indicates a space.
Execute "mail*36,2e0e00051a!" (Setting debug information display)
Note: * indicates a space.
Execute "mail*36,2e0d00060000!" (Downloading diag program)
Note: * indicates a space.
HIF check OK
NO
HIF NG
YES
CODEC1,2,3, EC All OK
NO
DSP NG
YES
Connect the AUDIO OUT (NEAR) and AUDIO IN(AUX) terminals using pin plug cord
Execute "mail*36,2e0d00060600!" (AUDIO NEAR loopback check)
Note: * indicates a space.
AUX_Lout→AUXin All OK
NO
NEAR NG
YES
Connect the AUDIO OUT (FAR) and AUDIO IN(AUX) terminals using pin plug cord
Execute "mail*36,2e0d00060601!" (AUDIO FAR loopback check)
Note: * indicates a space.
AUX_Rout→AUXin All OK
NO
FAR NG
YES
Disconnect the AUDIO OUT (FAR) from AUDIO IN(AUX) terminals(detach the pin cord)
Turn the AUDIO UNIT loopback switch ON
Execute "mail*36,2e0d00060602!" (AUDIO UNIT loopback check)
Note: * indicates a space.
AUDIO UNIT loopback All OK
NO
UNIT NG
YES
Turn the AUDIO UNIT loopback switch OFF
Dial "1L,1L"(IF Loop), with AUDIO BAND "7K", from Menu "OTHER"->"DIAL LIST"->"SETUP"
Execute "pass*39", "vcx_bAudioLoopback*1", and "exit" in this order
Note: * indicates a space.
Execute "mail*36,2e0e000519!" (Setting debug information display)
Note: * indicates a space.
Execute "mail*36,2e0d001308 010004000c00010000ff00120004!" (Digital test sequence)
Note: * indicates a space.
0 errors detected in every period
NO
VPR NG
YES
APR is NOT defective. This is END of diagnosis.

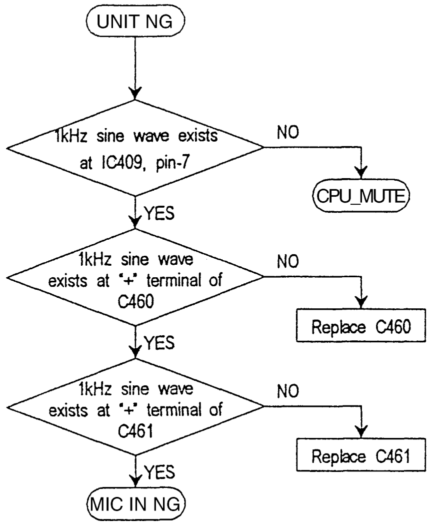

DSP NG
NG exists in every CODEC1,2,3&EC
YES
NO
register, internal data memory All OK
YES
INT3V NG
NO
Replace IC101,102,103,110,111
NG exists in every CODEC1,2&3
YES
NO
IC151, "vout" is 3.3V±0.1V
NO
Replace IC151
YES
X200, "out" is 7.5MHz rectangular wave
NO
CK7.5 NG
YES
register, internal data memory All OK
YES
INT3V NG
NO
Replace IC202,203
NG exists in CODEC1
YES
Replace IC210
NO
NG exists in CODEC2
YES
Replace IC220
NO
if IC230 is not on board
NG exists in CODEC3
YES
Replace IC230
NO
← NG exists in EC
EC test All NG
YES
NO
X320, "out" is 40MHz rectangular wave
YES
Replace IC320
NO
IC152 "vout" is 3.3V±0.1V
NO
Replace IC152
YES
Replace X200
external data memory NG
YES
Replace IC321,322,323
NO
internal data memory NG
YES
Replace IC320
NO
some interrupts NG
YES
INT5V NG
NO
← EC ↔ CODEC SIO data flow is NG
Check the following signals triggered by IC300, pin-3
IC320, pin-10 waveform varies periodically in long terms
NO
Replace IC320
YES
Use the signal at IC320, pin-10 as the reference signal
IC205, pin-3 same waveform as the reference
NO
Replace IC205
YES
IC210, pin-58 waveform varies periodically in long terms
NO
Replace IC210
YES
Use the signal at IC210, pin-58 as the reference signal
IC220, pin-58 same waveform as the reference
NO
Replace IC220
YES
IC230, pin-58 same waveform as the reference
NO
Replace IC230
YES
IC206, pin-2,11,13 same waveform as the reference
NO
Replace IC206
YES
IC310, pin-4 waveform varies periodically in long terms
NO
Replace IC310
YES
Replace IC320

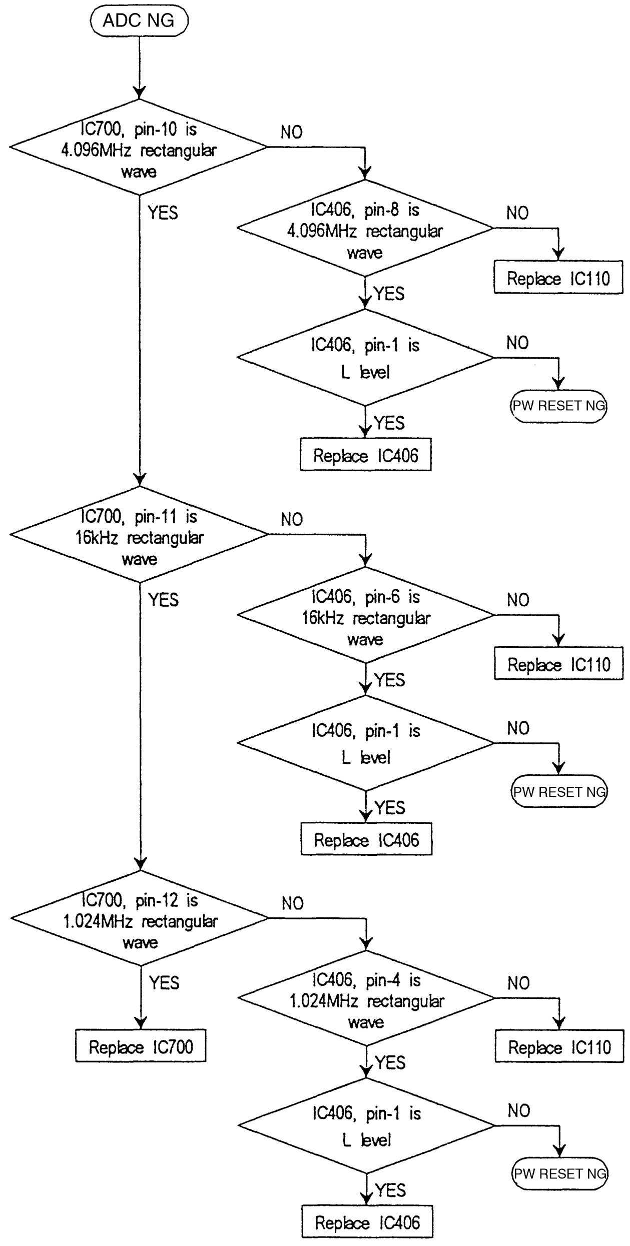

NEAR NG
Execute "mail*36,2e0d0007010808!" (1kHz sine wave signal output)
Note: * indicates a space
Any signal exists at IC406, pin-2, triggered by IC300, pin-3
NO
Replace IC320
YES
Any signal exists at IC406, pin-18, triggered by IC300, pin-3
NO
Replace IC406
YES
Any signal exists at IC700, pin-17, triggered by IC300, pin-3
NO
Replace RB700
YES
← Digital signal received is OK
1kHz sine wave exists at IC700, pin-26
NO
ADC NG
YES
1kHz sine wave exists at TP403
NO
Replace C712
YES
1kHz sine wave exists at IC409, pin-14
NO
AUX_MUTE
YES
1kHz sine wave exists at "+" terminal of C484
NO
Replace C484
YES
1kHz sine wave exists at CN404
NO
Replace FL402
YES
AUX IN NG

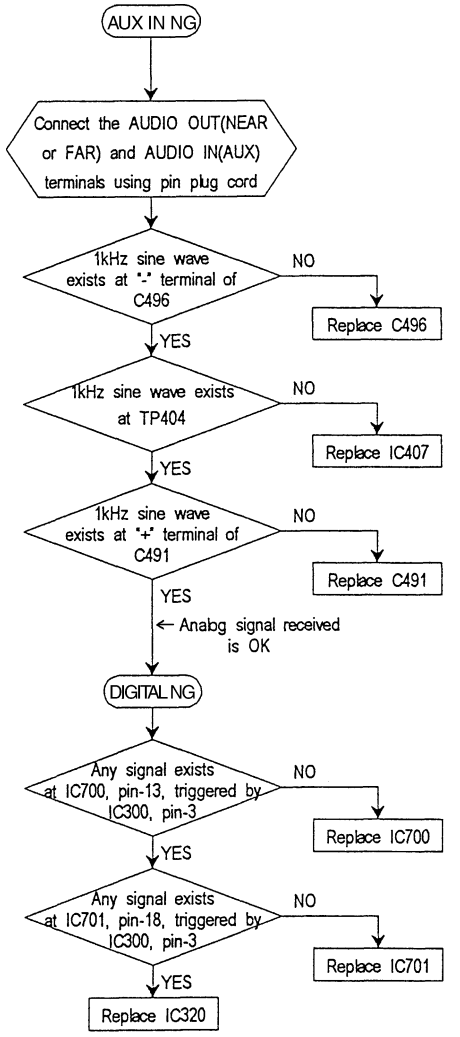

FAR NG
Execute "mail*36,2e0d0007010808!" (1kHz sine wave signal output)
Note: * indicates a space.
1kHz sine wave exists at IC700, pin-24
NO
Replace IC700
YES
1kHz sine wave exists at TP402
NO
Replace C711
YES
1kHz sine wave exists at IC409, pin-1
NO
AUX_MUTE
YES
1kHz sine wave exists at "+" terminal of C483
NO
Replace C483
YES
1kHz sine wave exists at CN403
NO
Replace FL401
YES
AUX IN NG

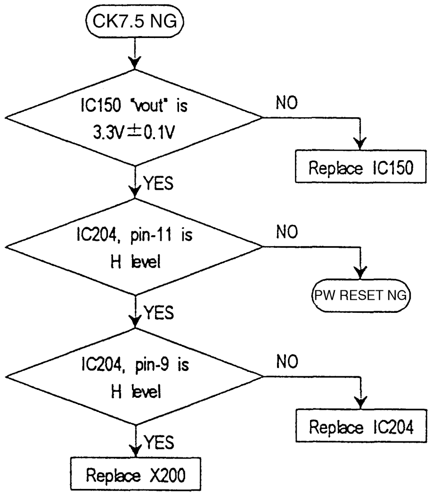

AUX_MUTE
IC110, pin-20 is H level
NO
Replace IC110
YES
CPU_MUTE

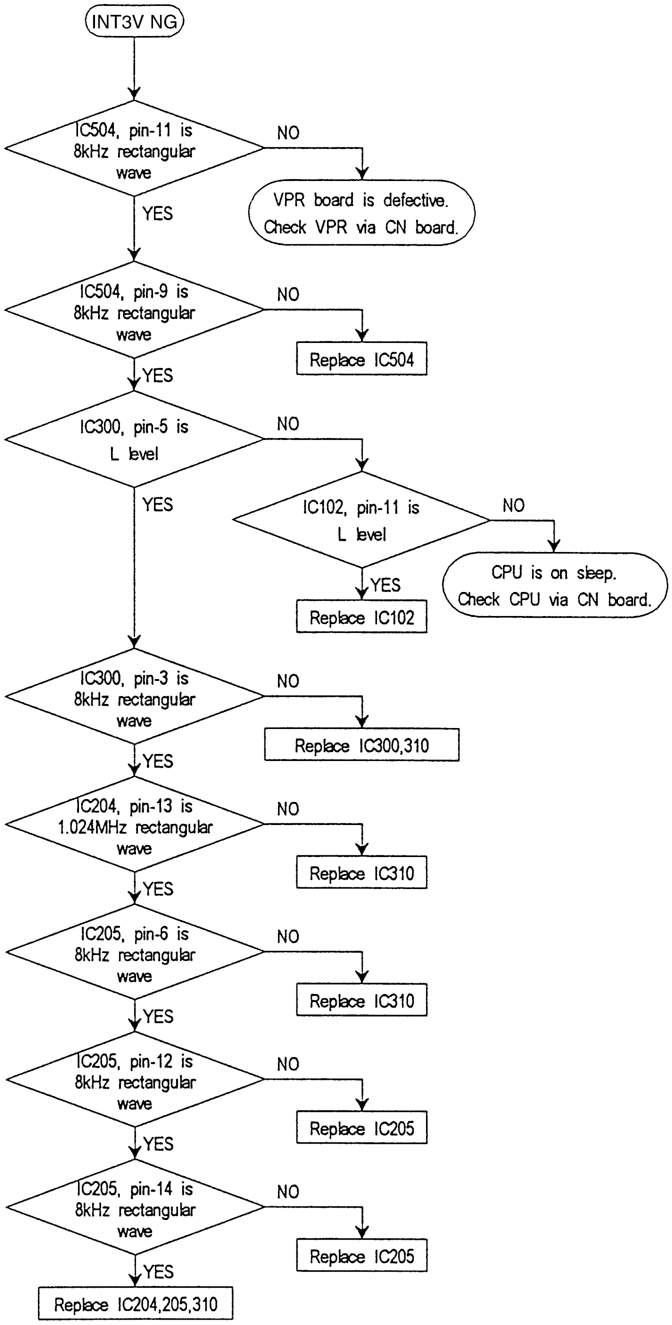

CPU_MUTE
IC110, pin-15 is H level
NO
Replace IC110
YES
IC404 "out" terminal is 5V±0.2V
NO
IC404 "in" terminal is 12V±1.0V
NO
Analog power supply (+12V) is defective
YES
Replace IC404
YES
IC401 "out" terminal is 9V±0.4V
NO
Replace IC401
YES
IC402 "out" terminal is −9V±0.4V
NO
IC402 "in" terminal is −12V±1.0V
NO
Analog power supply (−12V) is defective
YES
Replace IC402
YES
Replace IC409

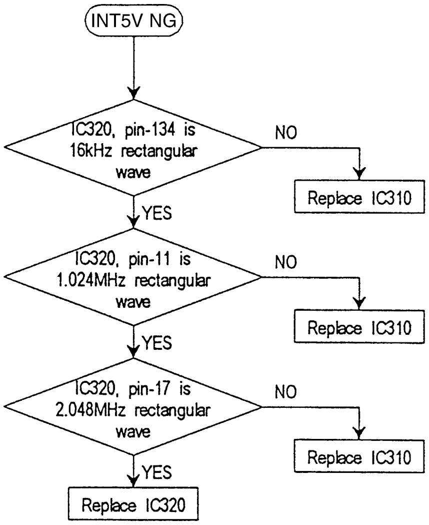

UNIT NG
1kHz sine wave exists at IC409, pin-7
NO
CPU_MUTE
YES
1kHz sine wave exists at "+" terminal of C460
NO
Replace C460
YES
1kHz sine wave exists at "+" terminal of C461
NO
Replace C461
YES
MIC IN NG

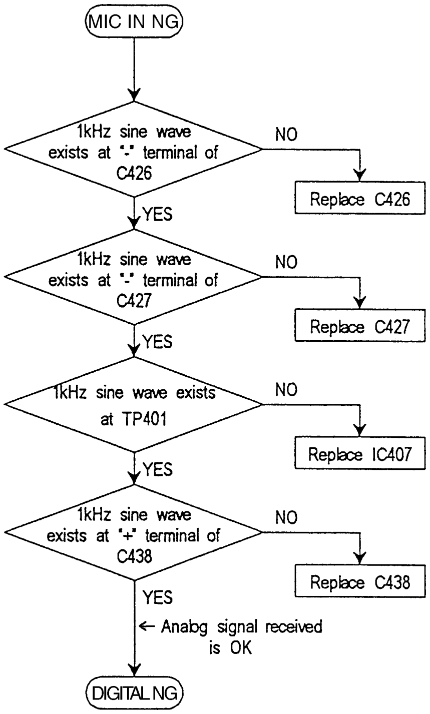

ADC NG
IC700, pin-10 is 4.096MHz rectangular wave
NO
IC406, pin-8 is 4.096MHz rectangular wave
NO
Replace IC110
YES
IC406, pin-1 is L level
NO
PW RESET NG
YES
Replace IC406
YES
IC700, pin-11 is 16kHz rectangular wave
NO
IC406, pin-6 is 16kHz rectangular wave
NO
Replace IC110
YES
IC406, pin-1 is L level
NO
PW RESET NG
YES
Replace IC406
YES
IC700, pin-12 is 1.024MHz rectangular wave
NO
IC406, pin-4 is 1.024MHz rectangular wave
NO
Replace IC110
YES
IC406, pin-1 is L level
NO
PW RESET NG
YES
Replace IC406
YES
Replace IC700

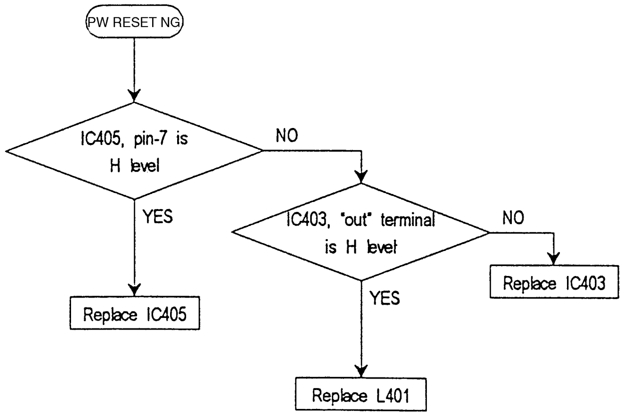

AUX IN NG
Connect the AUDIO OUT(NEAR or FAR) and AUDIO IN(AUX) terminals using pin plug cord
1kHz sine wave exists at "-" terminal of C496
NO
Replace C496
YES
1kHz sine wave exists at TP404
NO
Replace IC407
YES
1kHz sine wave exists at "+" terminal of C491
NO
Replace C491
YES
← Analog signal received is OK
DIGITAL NG
Any signal exists at IC700, pin-13, triggered by IC300, pin-3
NO
Replace IC700
YES
Any signal exists at IC701, pin-18, triggered by IC300, pin-3
NO
Replace IC701
YES
Replace IC320

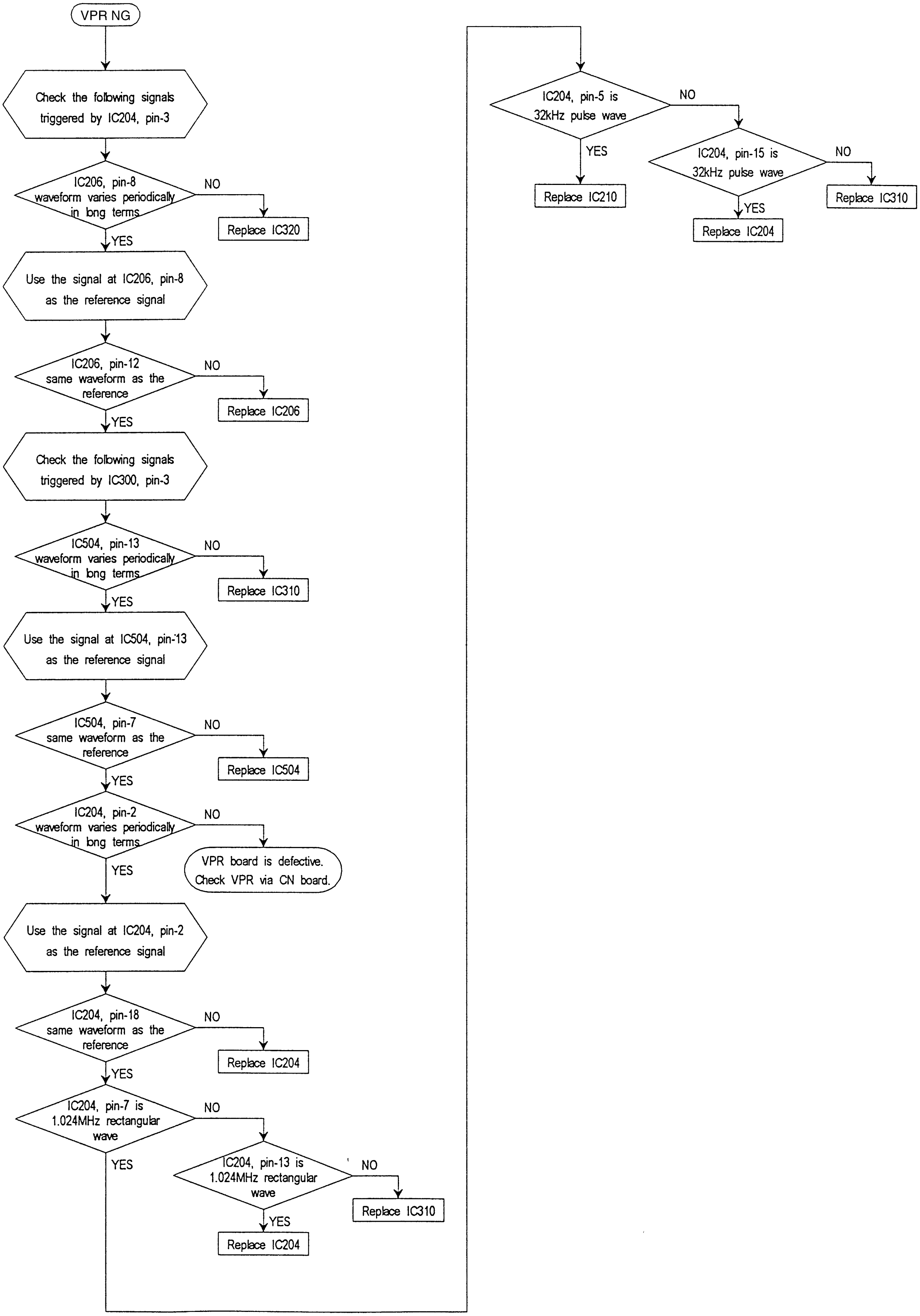

CK7.5 NG
IC150 "Vout" is 3.3V±0.1V
NO
Replace IC150
YES
IC204, pin-11 is H level
NO
PW RESET NG
YES
IC204, pin-9 is H level
NO
Replace IC204
YES
Replace X200

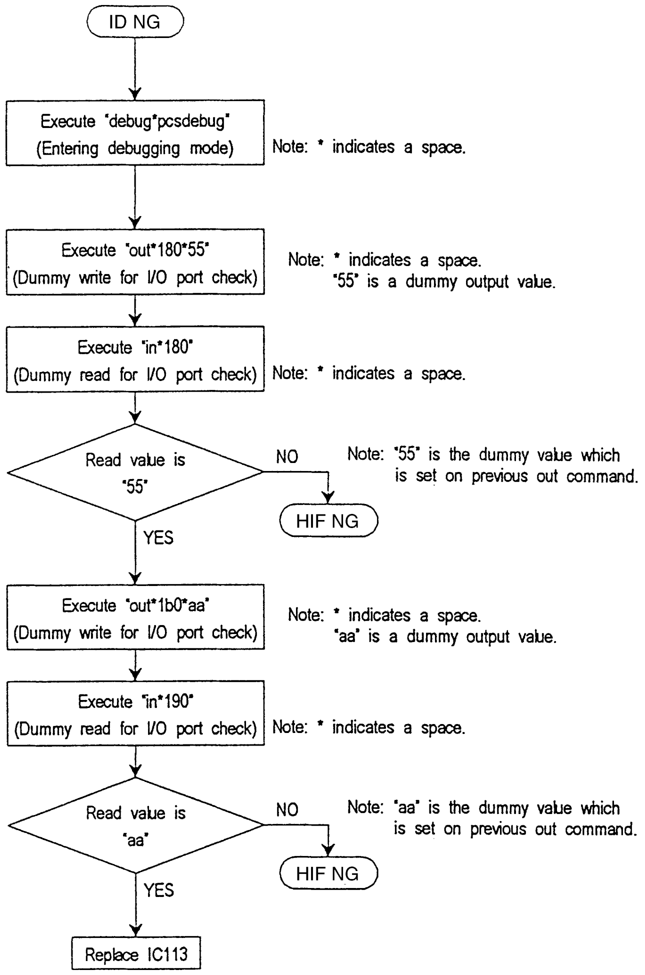

INT3V NG
IC504, pin-11 is 8kHz rectangular wave
NO
VPR board is defective. Check VPR via CN board.
YES
IC504, pin-9 is 8kHz rectangular wave
NO
Replace IC504
YES
IC300, pin-5 is L level
NO
IC102, pin-11 is L level
NO
CPU is on sleep. Check CPU via CN board.
YES
Replace IC102
YES
IC300, pin-3 is 8kHz rectangular wave
NO
Replace IC300,310
YES
IC204, pin-13 is 1.024MHz rectangular wave
NO
Replace IC310
YES
IC205, pin-6 is 8kHz rectangular wave
NO
Replace IC310
YES
IC205, pin-12 is 8kHz rectangular wave
NO
Replace IC205
YES
IC205, pin-14 is 8kHz rectangular wave
NO
Replace IC205
YES
Replace IC204,205,310

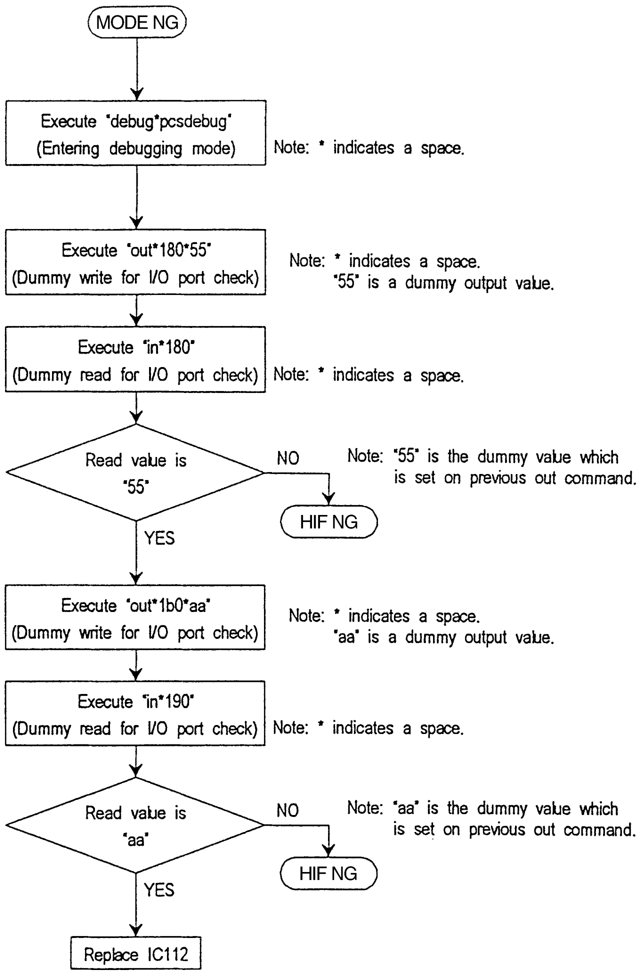

INT5V NG
IC320, pin-134 is 16kHz rectangular wave
NO
Replace IC310
YES
IC320, pin-11 is 1.024MHz rectangular wave
NO
Replace IC310
YES
IC320, pin-17 is 2.048MHz rectangular wave
NO
Replace IC310
YES
Replace IC320

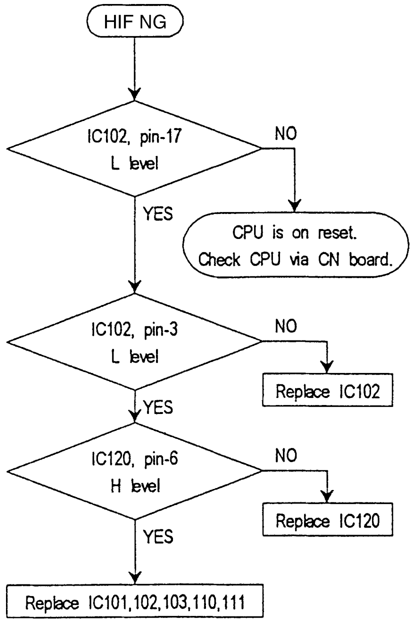

MIC IN NG
1kHz sine wave exists at "-" terminal of C426
NO
Replace C426
YES
1kHz sine wave exists at "-" terminal of C427
NO
Replace C427
YES
1kHz sine wave exists at TP401
NO
Replace IC407
YES
1kHz sine wave exists at "+" terminal of C438
NO
Replace C438
YES
← Analog signal received is OK
DIGITAL NG

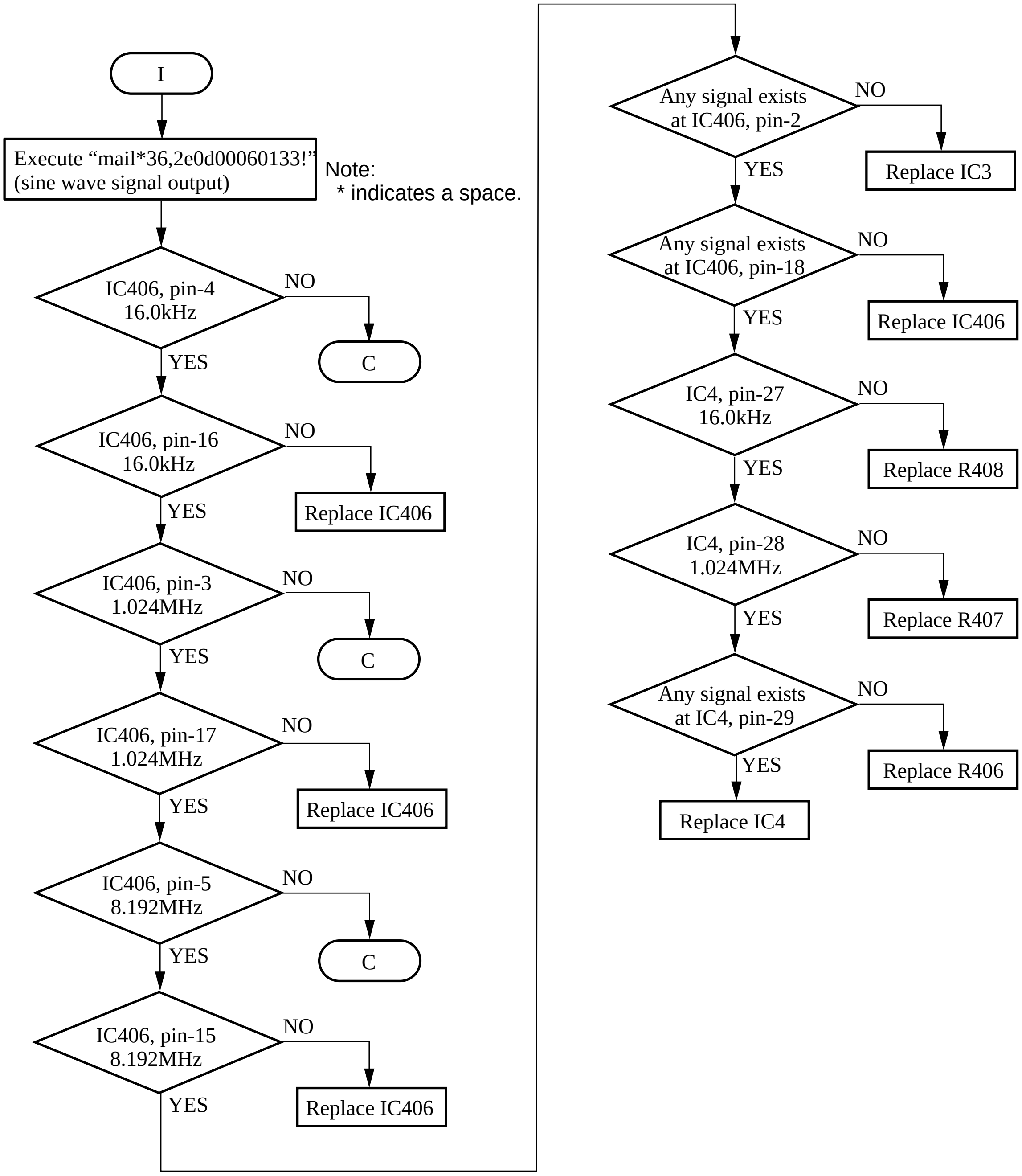

PW RESET NG
IC405, pin-7 is H level
NO
IC403, "out" terminal is H level
NO
Replace IC403
YES
Replace L401
YES
Replace IC405


VPR NG
Check the following signals triggered by IC204, pin-3
IC206, pin-8 waveform varies periodically in long terms
NO
Replace IC320
YES
Use the signal at IC206, pin-8 as the reference signal
IC206, pin-12 same waveform as the reference
NO
Replace IC206
YES
Check the following signals triggered by IC300, pin-3
IC504, pin-13 waveform varies periodically in long terms
NO
Replace IC310
YES
Use the signal at IC504, pin-13 as the reference signal
IC504, pin-7 same waveform as the reference
NO
Replace IC504
YES
IC204, pin-2 waveform varies periodically in long terms
NO
VPR board is defective. Check VPR via CN board.
YES
Use the signal at IC204, pin-2 as the reference signal
IC204, pin-18 same waveform as the reference
NO
Replace IC204
YES
IC204, pin-7 is 1.024MHz rectangular wave
NO
YES
IC204, pin-13 is 1.024MHz rectangular wave
NO
Replace IC310
YES
Replace IC204
IC204, pin-5 is 32kHz pulse wave
NO
YES
Replace IC210
IC204, pin-15 is 32kHz pulse wave
NO
Replace IC310
YES
Replace IC204


ID NG
Execute "debug*pcsdebug"
(Entering debugging mode)
Note: * indicates a space.
Execute "out*180*55"
(Dummy write for I/O port check)
Note: * indicates a space.
"55" is a dummy output value.
Execute "in*180"
(Dummy read for I/O port check)
Note: * indicates a space.
Read value is
"55"
NO
Note: "55" is the dummy value which
is set on previous out command.
HIF NG
YES
Execute "out*1b0*aa"
(Dummy write for I/O port check)
Note: * indicates a space.
"aa" is a dummy output value.
Execute "in*190"
(Dummy read for I/O port check)
Note: * indicates a space.
Read value is
"aa"
NO
Note: "aa" is the dummy value which
is set on previous out command.
HIF NG
YES
Replace IC113


MODE NG
Execute "debug*pcsdebug"
(Entering debugging mode)
Note: * indicates a space.
Execute "out*180*55"
(Dummy write for I/O port check)
Note: * indicates a space.
"55" is a dummy output value.
Execute "in*180"
(Dummy read for I/O port check)
Note: * indicates a space.
Read value is
"55"
NO
Note: "55" is the dummy value which
is set on previous out command.
HIF NG
YES
Execute "out*1b0*aa"
(Dummy write for I/O port check)
Note: * indicates a space.
"aa" is a dummy output value.
Execute "in*190"
(Dummy read for I/O port check)
Note: * indicates a space.
Read value is
"aa"
NO
Note: "aa" is the dummy value which
is set on previous out command.
HIF NG
YES
Replace IC112


HIF NG
IC102, pin-17
L level
NO
YES
CPU is on reset.
Check CPU via CN board.
IC102, pin-3
L level
NO
Replace IC102
YES
IC120, pin-6
H level
NO
Replace IC120
YES
Replace IC101,102,103,110,111


I
Execute “mail*36,2e0d00060133!”
(sine wave signal output)
IC406, pin-4
16.0kHz
NO
C
YES
IC406, pin-16
16.0kHz
NO
Replace IC406
YES
IC406, pin-3
1.024MHz
NO
C
YES
IC406, pin-17
1.024MHz
NO
Replace IC406
YES
IC406, pin-5
8.192MHz
NO
C
YES
IC406, pin-15
8.192MHz
NO
Replace IC406
YES
Any signal exists
at IC406, pin-2
NO
Replace IC3
YES
Any signal exists
at IC406, pin-18
NO
Replace IC406
YES
IC4, pin-27
16.0kHz
NO
Replace R408
YES
IC4, pin-28
1.024MHz
NO
Replace R407
YES
Any signal exists
at IC4, pin-29
NO
Replace R406
YES
Replace IC4

Note:
* indicates a space.

## 3-5. OUTLINE OF VPR-019 BOARD OPERATION

### 3-5-1. Function of VPR-019 in the PCS-P500/P500P

The PCS-P500/P500P performs the following operations using the CPU-202, IF-540/540P (IF-541/542/543, to be abbreviated simply as IF-54X hereafter), VPR-019, DAD-017/017P (DAD-018/018P/DAD-33/33P) and APR-011 boards: A/D and D/A conversions of video and audio signal, compression and decompression of motion picture (H.261), audio (G.711, G.722, G.728), still picture (JPEG) and document data (MMR), multiplexing and demultiplexing of various data (H.221), interface and control of communication line, acoustic echo canceling and system control.

The VPR-019 board has the functions of compression and decompression of motion picture, still picture and document data, and multiplexing and demultiplexing of data. In addition to them, the VPR-019 board is equipped with the functions of interfacing with document scanner, receiving the SIRCS signal from remote commander and decoding, encoding and sending the SIRCS signal to the IR-OUT.

Function blocks inside the VPR-019 board and connection with other boards are shown in Fig. 3-5-1.

As shown in Fig. 3-5-1, the video data input from the DAD-017/017P or DAD-018/018P/DAD-33/33P boards are compressed and coded by the motion picture compression block, and sent to the data multiplexing block. The compressed data output from the demultiplexing block is decompressed and decoded, and is output to the DAD-017/017P board. The still picture and document compression and decompression block performs compression and coding of the video signal input from either the DAD-017/017P board or DAD-018/018P/DAD-33/33P boards, and the document data (which is sent from VPR-019 board to the CPU-202 board for once and received from the CPU-202 board through bus) input from the scanner interface, and send the compressed data to the data multiplexing block via bus. The still picture and document compression and decompression block also performs decompression and decoding of the compressed data output from the demultiplexing block, and outputs the data to the DAD-017/017P board or to the DAD-018/018P board. (The data output for printer is sent to the CPU-202 board via bus.) The data multiplexing and demultiplexing block multiplexes the coded data of motion picture, still picture and document, the coded audio data which is input from the APR-011 board, and the user's data which is input from the CPU-202 board via bus. The multiplexed data is output to the IF-540/540P board or to the IF-54X board. The data multiplexing and demultiplexing block also demultiplexes the input data from the IF-540/540P board or from the IF-54X board. The multiplexed data is output to the decompression circuit of the APR-011 board, the CPU-202 board and each video block of the VPR-019 board. The scanner interface block performs control of the document scanner and inputting the scanner data. The SIRCS interface block performs decoding of the remote commander signal which is input from the infra red receiver of the PCS-C300/C300P, and generation of the remote control signal which is output to the IR-OUT terminal.

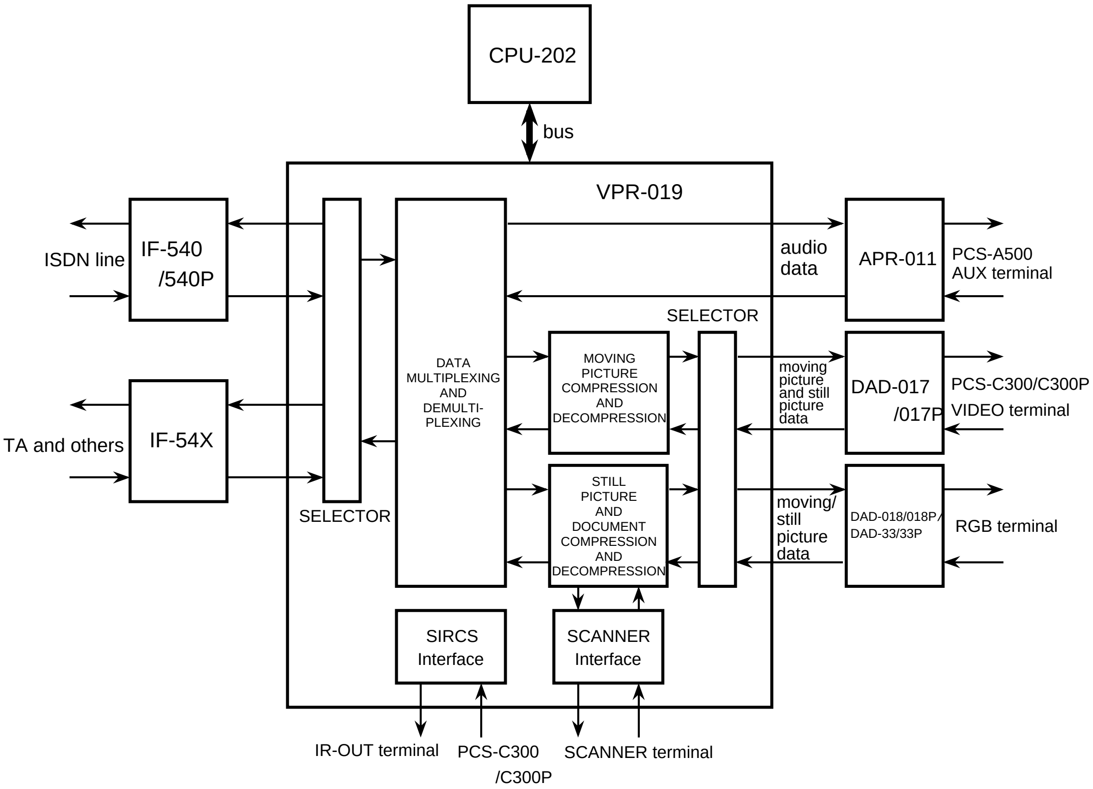

CPU-202
bus
VPR-019
ISDN line
IF-540
/540P
TA and others
IF-54X
SELECTOR
DATA
MULTIPLEXING
AND
DEMULTI-
PLEXING
MOVING
PICTURE
COMPRESSION
AND
DECOMPRESSION
STILL
PICTURE
AND
DOCUMENT
COMPRESSION
AND
DECOMPRESSION
SELECTOR
audio
data
APR-011
PCS-A500
AUX terminal
moving
picture
and still
picture
data
DAD-017
/017P
PCS-C300/C300P
VIDEO terminal
moving/
still
picture
data
DAD-018/018P/
DAD-33/33P
RGB terminal
SIRCS
Interface
SCANNER
Interface
IR-OUT terminal
PCS-C300
/C300P
SCANNER terminal

Fig. 3-5-1 VPR-019 Board Function Blocks and Connection with Other Boards

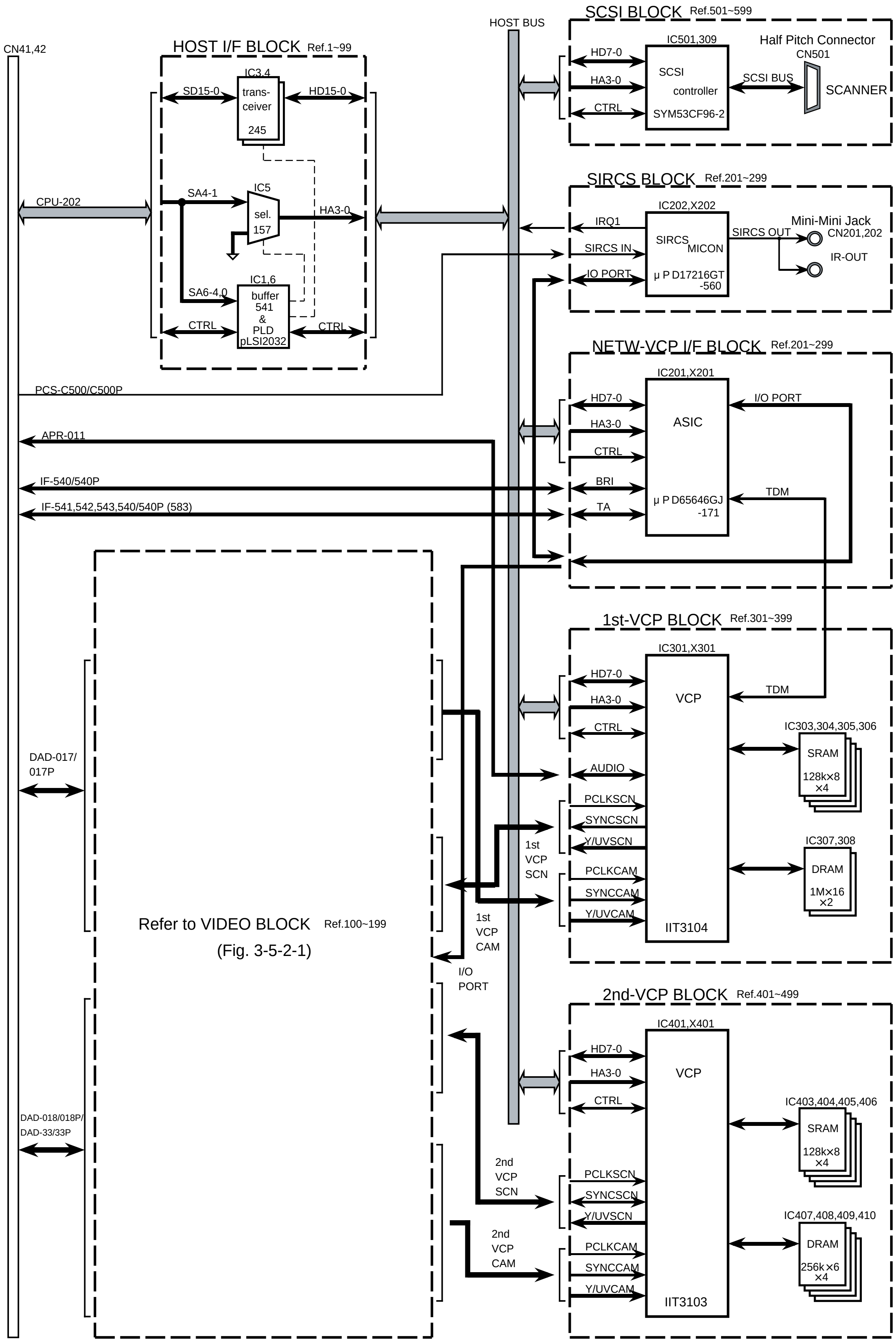

CN41,42
HOST I/F BLOCK Ref.1~99
IC3,4
trans-
ceiver
245
SD15-0
HD15-0
CPU-202
SA4-1
IC5
sel.
157
HA3-0
SA6-4,0
IC1,6
buffer
541
&
PLD
pLSI2032
CTRL
CTRL
HOST BUS
SCSI BLOCK Ref.501~599
IC501,309
HD7-0
HA3-0
CTRL
SCSI
controller
SYM53CF96-2
Half Pitch Connector
CN501
SCSI BUS
SCANNER
SIRCS BLOCK Ref.201~299
IC202,X202
IRQ1
SIRCS IN
IO PORT
SIRCS
MICON
μ P D17216GT
-560
SIRCS OUT
Mini-Mini Jack
CN201,202
IR-OUT
PCS-C500/C500P
NETW-VCP I/F BLOCK Ref.201~299
IC201,X201
HD7-0
HA3-0
CTRL
BRI
TA
ASIC
μ P D65646GJ
-171
I/O PORT
TDM
APR-011
IF-540/540P
IF-541,542,543,540/540P (583)
1st-VCP BLOCK Ref.301~399
IC301,X301
HD7-0
HA3-0
CTRL
AUDIO
PCLKSCN
SYNCSCN
Y/UVSCN
PCLKCAM
SYNCCAM
Y/UVCAM
VCP
IIT3104
TDM
IC303,304,305,306
SRAM
128k×8
×4
IC307,308
DRAM
1M×16
×2
1st
VCP
SCN
1st
VCP
CAM
I/O
PORT
DAD-017/
017P
Refer to VIDEO BLOCK Ref.100~199
(Fig. 3-5-2-1)
DAD-018/018P/
DAD-33/33P
2nd-VCP BLOCK Ref.401~499
IC401,X401
HD7-0
HA3-0
CTRL
PCLKSCN
SYNCSCN
Y/UVSCN
PCLKCAM
SYNCCAM
Y/UVCAM
VCP
IIT3103
IC403,404,405,406
SRAM
128k×8
×4
IC407,408,409,410
DRAM
256k×6
×4
2nd
VCP
SCN
2nd
VCP
CAM

Fig. 3-5-2 VPR-019 Board Block Diagram

VIDEO BLOCK Ref.100-199

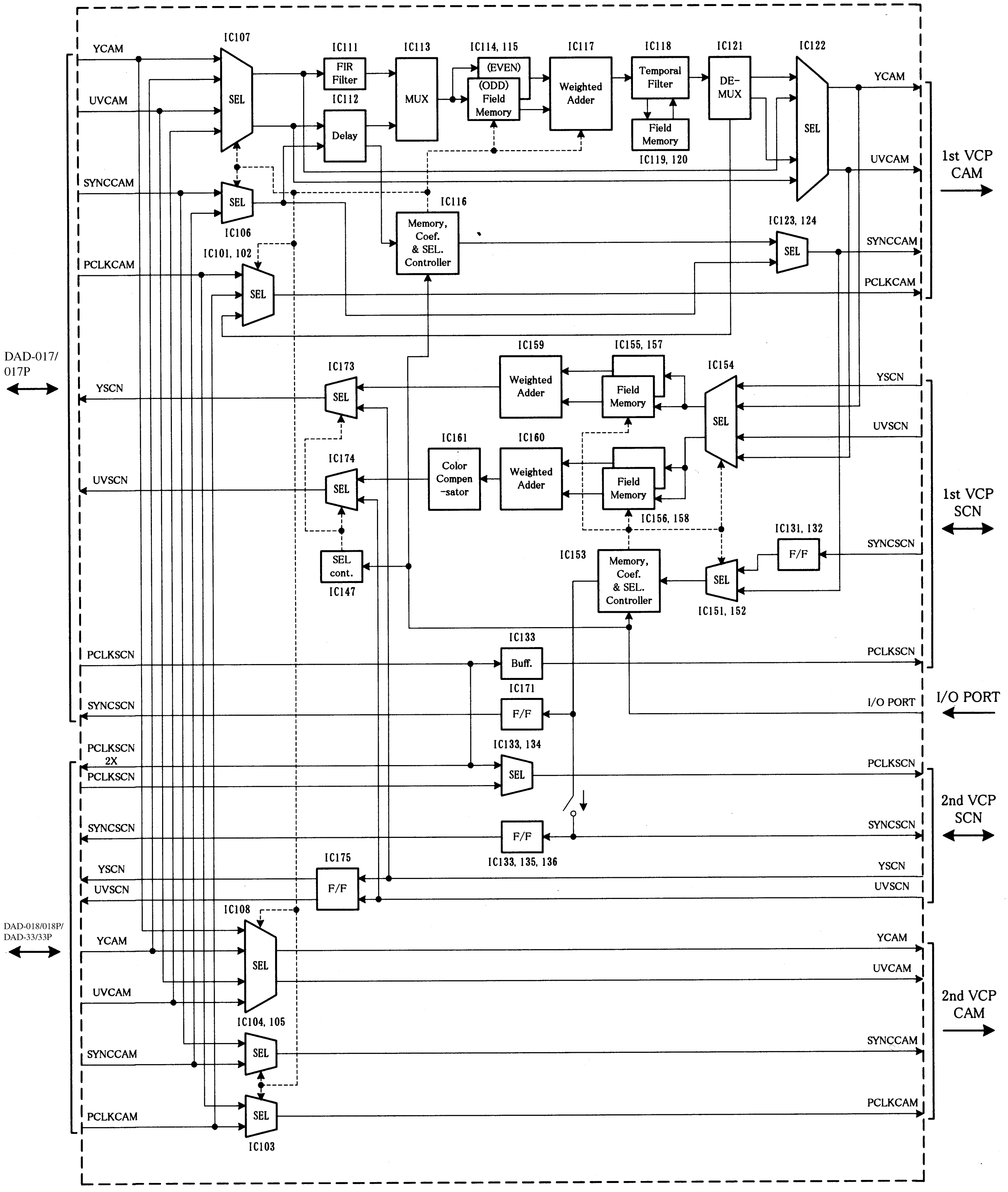

DAD-017/
017P
DAD-018/018P/
DAD-33/33P
YCAM
UVCAM
SYNCCAM
PCLKCAM
YSCN
UVSCN
PCLKSCN
SYNCSCN
PCLKSCN
2X
IC107
SEL
IC106
IC101, 102
IC111
FIR
Filter
IC112
Delay
IC113
MUX
IC114, 115
(EVEN)
(ODD)
Field
Memory
IC117
Weighted
Adder
IC118
Temporal
Filter
Field
Memory
IC119, 120
IC121
DE-
MUX
IC122
IC116
Memory,
Coef.
& SEL.
Controller
IC123, 124
1st VCP
CAM
IC159
IC155, 157
IC154
IC173
IC174
IC161
Color
Compen
-sator
IC160
IC156, 158
IC131, 132
F/F
IC153
IC151, 152
SEL
cont.
IC147
1st VCP
SCN
IC133
Buff.
IC171
I/O PORT
IC133, 134
IC133, 135, 136
2nd VCP
SCN
IC175
IC108
IC104, 105
IC103
2nd VCP
CAM

Fig. 3-5-2-1 VPR-019 board video signal processing system block diagram

### 3-5-2. Dividing the VPR-019 Circuit into Blocks and Outline of Operation

The VPR-019 board consists of the following seven blocks: the host interface block, 1st-VCP block, 2nd-VCP block, video selector block, NETW-VCP interface block, SCSI interface block and the SIRCS interface block. Fig. 3-5-2 shows the block diagram of the VPR-019 board and connection inside the board and with other boards.
Functions of each block are described below.

#### 1. Host interface block

This is the bus interface with the CPU-202 board which means the host CPU itself. This block consists of the following circuits data bus transceiver, buffers, address decoder and generation of DMA cycle control signal, and so on.
The data bus (SD15-0) coming from the CPU-202 board is connected to each block through the bi-directional transceivers (HD15-0) of IC3 and IC4. The SA4-1 among the address bus (SA6-0) is input to each block through the selector (IC5). Using this selector, HA3-0 is fixed to “0” during the DMA cycle. (The 0 address port of VCP is accessed during the DMA cycle.) SA6-4 and 0 are decoded by IC6 and turn into the chip select signal for each block (device), the read/write pulse for two VCPs and the enable signal for the transceivers IC3 and IC4 after the signal is combined with other control signals. IC6 performs generation of the DMA request signal, read/write pulse during the DMA cycle and software reset signal for two VCP blocks.
If this block becomes defective, the setting from the host CPU cannot be performed correctly. If any error occurs in reading/writing to and from the I/O of all blocks, or in downloading the program to both two VCP blocks, this block is defective. (An error can occur only in accessing to a specific block depending upon the contents of the defect.)

#### 2. 1st-VCP block

The 1st-VCP block has the functions of compression and decompression (H.261) of motion picture and multiplexing and demultiplexing of various data (H.221). (The area which is encircled by dotted line in Fig. 3-5-3.)

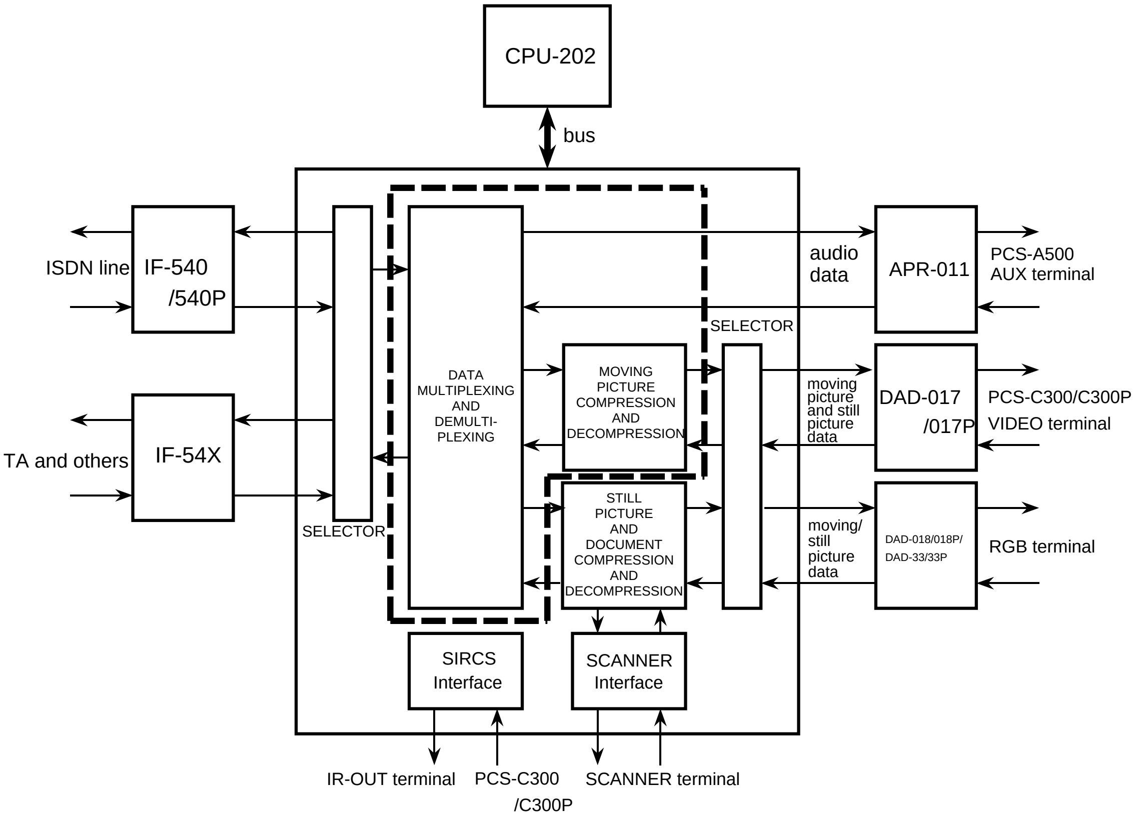
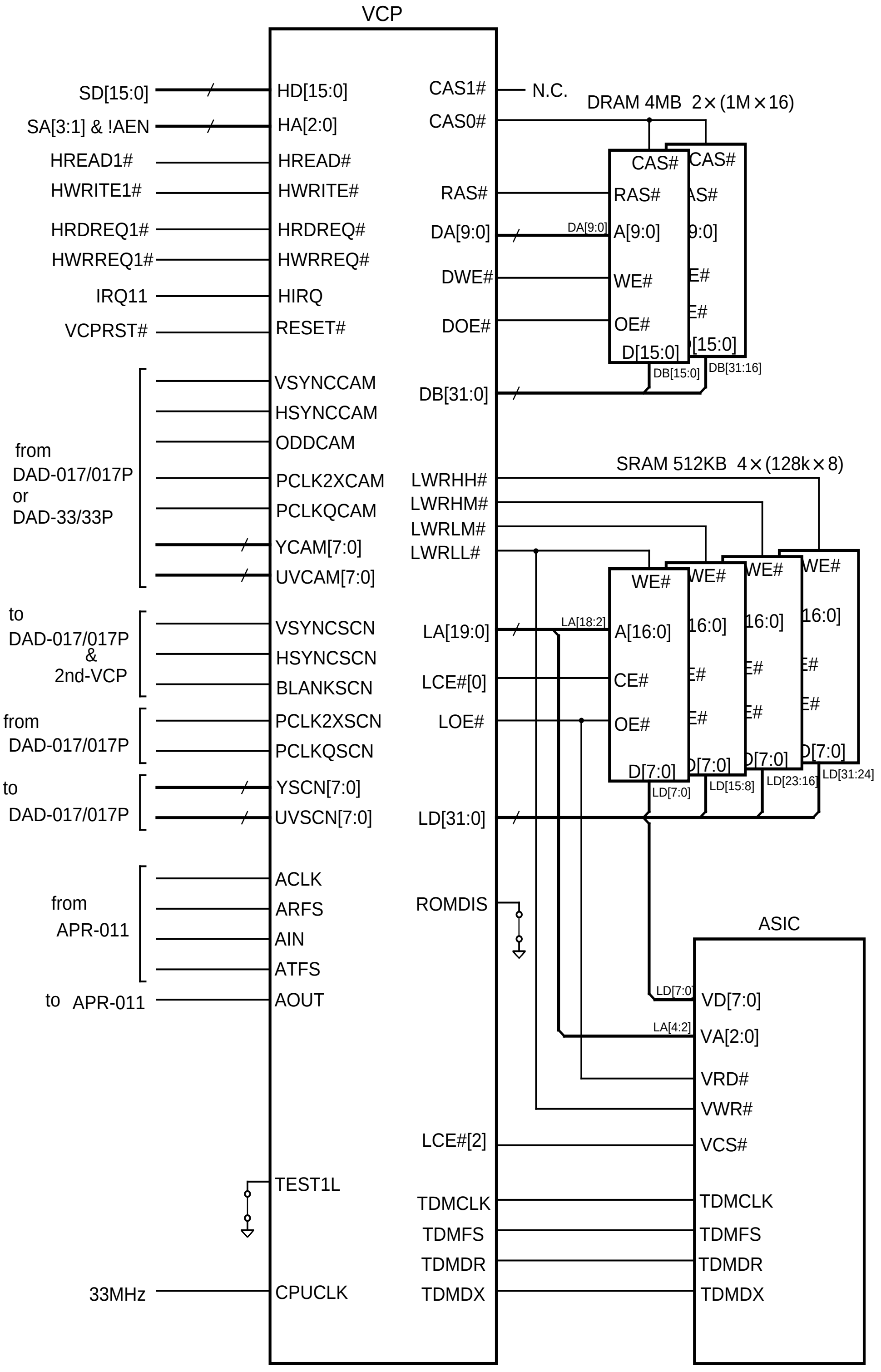

CPU-202
bus
ISDN line
IF-540
/540P
TA and others
IF-54X
SELECTOR
DATA MULTIPLEXING AND DEMULTI-PLEXING
MOVING PICTURE COMPRESSION AND DECOMPRESSION
STILL PICTURE AND DOCUMENT COMPRESSION AND DECOMPRESSION
SELECTOR
audio data
APR-011
PCS-A500
AUX terminal
moving picture and still picture data
DAD-017
/017P
PCS-C300/C300P
VIDEO terminal
moving/ still picture data
DAD-018/018P/
DAD-33/33P
RGB terminal
SIRCS Interface
SCANNER Interface
IR-OUT terminal
PCS-C300
/C300P
SCANNER terminal

Fig. 3-5-3 Function Blocks of 1st-VCP Block


VCP
SD[15:0]
HD[15:0]
SA[3:1] & !AEN
HA[2:0]
HREAD1#
HREAD#
HWRITE1#
HWRITE#
HRDREQ1#
HRDREQ#
HWRREQ1#
HWRREQ#
IRQ11
HIRQ
VCPRST#
RESET#
from
DAD-017/017P
or
DAD-33/33P
VSYNCCAM
HSYNCCAM
ODDCAM
PCLK2XCAM
PCLKQCAM
YCAM[7:0]
UVCAM[7:0]
to
DAD-017/017P
&
2nd-VCP
VSYNCSCN
HSYNCSCN
BLANKSCN
from
DAD-017/017P
PCLK2XSCN
PCLKQSCN
to
DAD-017/017P
YSCN[7:0]
UVSCN[7:0]
from
APR-011
ACLK
ARFS
AIN
ATFS
to APR-011
AOUT
TEST1L
33MHz
CPUCLK
CAS1#
N.C.
CAS0#
DRAM 4MB 2×(1M×16)
CAS#
CAS#
RAS#
RAS#
AS#
DA[9:0]
DA[9:0]
A[9:0]
9:0]
DWE#
WE#
E#
DOE#
OE#
E#
D[15:0]
[15:0]
DB[31:0]
DB[15:0]
DB[31:16]
SRAM 512KB 4×(128k×8)
LWRHH#
LWRHM#
LWRLM#
LWRLL#
WE#
WE#
WE#
WE#
LA[19:0]
LA[18:2]
A[16:0]
16:0]
16:0]
16:0]
LCE#[0]
CE#
E#
E#
E#
LOE#
OE#
E#
E#
E#
D[7:0]
D[7:0]
D[7:0]
D[7:0]
LD[7:0]
LD[15:8]
LD[23:16]
LD[31:24]
LD[31:0]
ROMDIS
ASIC
LD[7:0]
VD[7:0]
LA[4:2]
VA[2:0]
VRD#
VWR#
LCE#[2]
VCS#
TDMCLK
TDMCLK
TDMFS
TDMFS
TDMDR
TDMDR
TDMDX
TDMDX

!HREAD1# = (310h ≦ I/O Address < 320h) & !AEN & !IOR#
!HWRITE1# = (310h ≦ I/O Address < 320h) & !AEN & !IOW# | !DACK5# & !IOW
DRQ5 = HWRREQ1# & DACK5#
DRQ6 = HRDREQ1# & DACK6#
VCPRST# = HOST_RESET | !PLD_RSTVCP1*
＊: I/O Address of PLD_RSTVCP1 is "31Eh"

Fig. 3-5-4 Connection Diagram of 1st-VCP Block

The following ICs consist of the 1st-VCP block: VCP (33 MHz, IC301) which is the video and communication processor, SRAM (256K×8-bit×4, IC303 to IC306) for VCP program code and data, DRAM (1M×16-bit×2, IC307 and IC308) for VCP video data and crystal oscillator (36 MHz, X301). The functions are realized by means of the software of the VCP. Therefore, even if the hardware has no abnormality, the system will not work correctly if the downloading the program from the host CPU is not performed correctly. If downloading fails, it is important to locate that which board is the cause of trouble, CPU-202 board or VPR-019 board (for both hardware and software). If downloading fails due to a defective VPR-019 board, the previously described host interface block, VCP (IC301) host bus interface, SRAM interface, or SRAMs (IC303 to IC306) is likely to be defective.
Fig. 3-5-4 shows connection around the 1st-VCP block. The host bus interface is used for setting and reading the internal port, program downloading, and input and output of the data such as LSD, HSD. The 16-bit data line, 3-bit address line and other control lines are used, the interrupt is performed by the IRQ11, the DMA channel uses ch. 6 for reading from VCP (i.e., writing into memory) and ch. 5 for writing (i. e., reading from memory) to the VCP. (The DMA channels are set by the host interface circuit.) The video signal interface has the two signal systems: one is the CAM signal system which is input from the DAD-017/017P board via video selector, and the other is the SCN signal system which is output to the DAD-017/017P board. The video signal interface consists of the sync, pixel clock and 8-bit Y and UV signals. The audio signal interface consists of each 1-bit serial signal for both send and receive, which is connected to the APR-011 board. The TDM interface sends the data which is multiplexed inside the VCP and is output to external line, and receives the data which is input from external line and is demultiplexed inside the VCP, between the 1st-VCP block and the ASIC (IC201) of the NETW-VCP interface block. The SRAM interface is connected directly to the four 1M (128k×8) bit SRAMs. The SRAMs are used for storing the program code and data. If the SRAMs become defective, the VCP software will not work correctly, and the downloading cannot be performed correctly in some cases. The DRAM interface is connected directly to the two 16M (1M×16) bit DRAMs. Because the DRAMs are used for storing the video data, the video signal is adversely affected if the DRAM interface becomes defective.

### 3. 2nd-VCP block

The 2nd-VCP block has the functions of compression and decompression (JPEG) of still picture, coding and decoding (MMR) of document and control of LAP-B protocol. (The area which is encircled by dotted line in Fig. 3-5-5.)

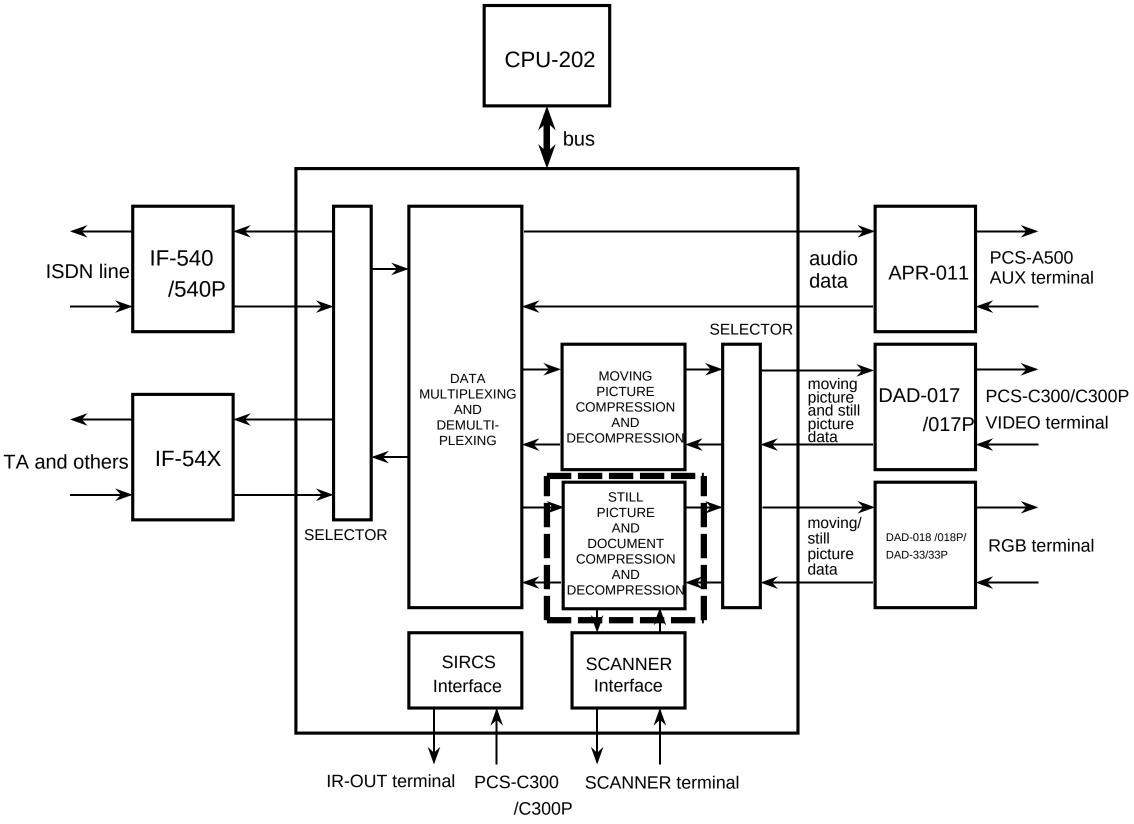
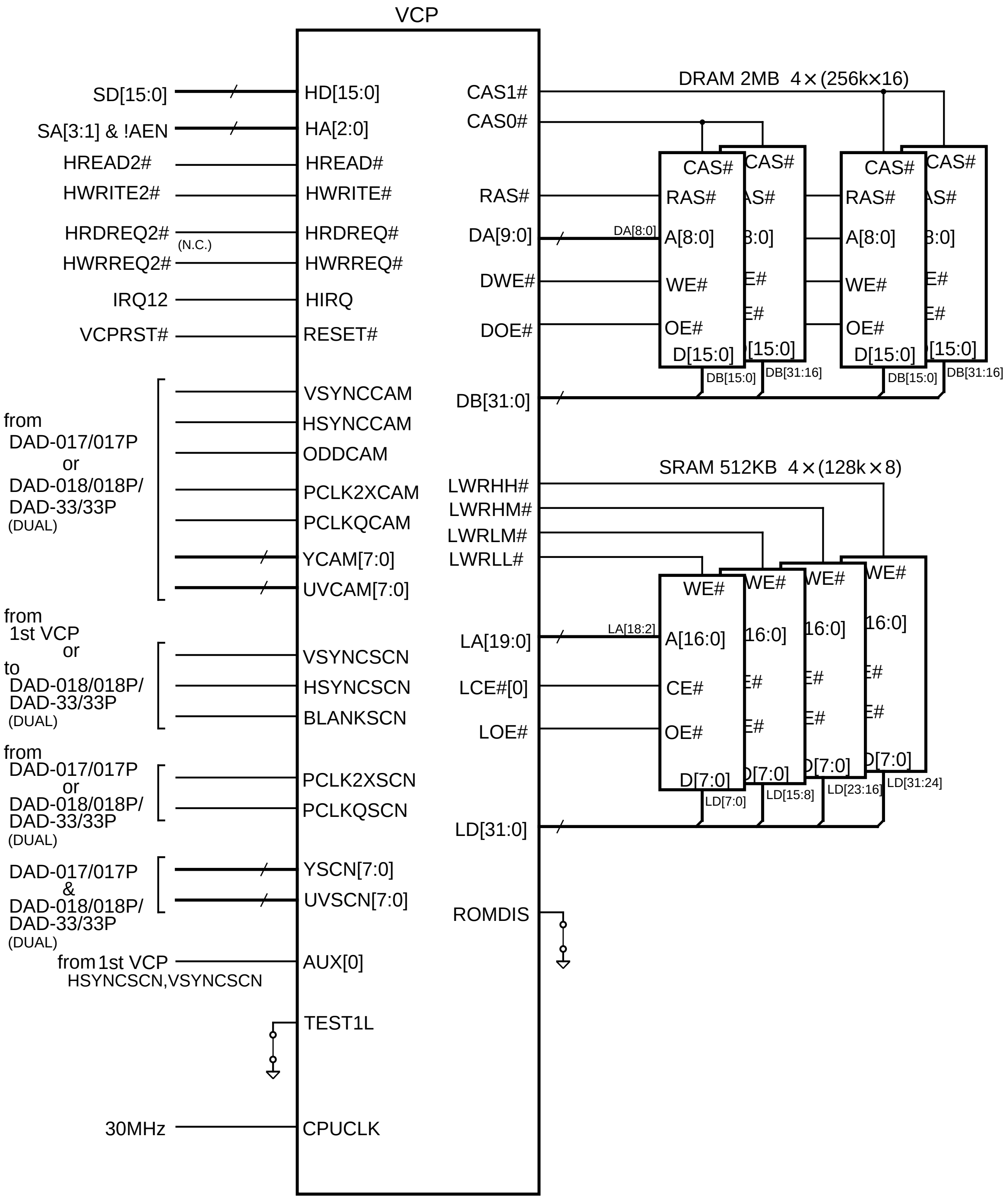

CPU-202
bus
ISDN line
IF-540
/540P
TA and others
IF-54X
SELECTOR
DATA MULTIPLEXING AND DEMULTI-PLEXING
MOVING PICTURE COMPRESSION AND DECOMPRESSION
STILL PICTURE AND DOCUMENT COMPRESSION AND DECOMPRESSION
SELECTOR
audio data
APR-011
PCS-A500 AUX terminal
moving picture and still picture data
DAD-017 /017P
PCS-C300/C300P VIDEO terminal
moving/ still picture data
DAD-018 /018P/ DAD-33/33P
RGB terminal
SIRCS Interface
SCANNER Interface
IR-OUT terminal
PCS-C300 /C300P
SCANNER terminal

Fig. 3-5-5 Function Blocks of 2nd-VCP Block


VCP
SD[15:0]
SA[3:1] & !AEN
HREAD2#
HWRITE2#
HRDREQ2#
(N.C.)
HWRREQ2#
IRQ12
VCPRST#
from
DAD-017/017P
or
DAD-018/018P/
DAD-33/33P
(DUAL)
from
1st VCP
or
to
DAD-018/018P/
DAD-33/33P
(DUAL)
from
DAD-017/017P
or
DAD-018/018P/
DAD-33/33P
(DUAL)
DAD-017/017P
&
DAD-018/018P/
DAD-33/33P
(DUAL)
from 1st VCP
HSYNCSCN,VSYNCSCN
30MHz
HD[15:0]
HA[2:0]
HREAD#
HWRITE#
HRDREQ#
HWRREQ#
HIRQ
RESET#
VSYNCCAM
HSYNCCAM
ODDCAM
PCLK2XCAM
PCLKQCAM
YCAM[7:0]
UVCAM[7:0]
VSYNCSCN
HSYNCSCN
BLANKSCN
PCLK2XSCN
PCLKQSCN
YSCN[7:0]
UVSCN[7:0]
AUX[0]
TEST1L
CPUCLK
CAS1#
CAS0#
RAS#
DA[9:0]
DWE#
DOE#
DB[31:0]
LWRHH#
LWRHM#
LWRLM#
LWRLL#
LA[19:0]
LCE#[0]
LOE#
LD[31:0]
ROMDIS
DRAM 2MB 4×(256k×16)
DA[8:0]
CAS#
RAS#
A[8:0]
WE#
OE#
D[15:0]
DB[15:0]
DB[31:16]
SRAM 512KB 4×(128k×8)
LA[18:2]
WE#
A[16:0]
CE#
OE#
D[7:0]
LD[7:0]
LD[15:8]
LD[23:16]
LD[31:24]

!HREAD2# = (360h ≦ I/O Address < 370h) & !AEN & !IOR# | !DACK6# & !IOR
!HWRITE2# = (360h ≦ I/O Address < 370h) & !AEN & !IOW# | !DACK7# & !IOW
DRQ7 = HWRREQ2# & DACK7#
VCPRST# = HOST_RESET | !PLD_RSTVCP2*
＊ : I/O Address of PLD_RSTVCP2 is "36Eh"

Fig. 3-5-6 Connection Diagram of 2nd-VCP Block

The ICs consisting of the 2nd-VCP block are same as those of the 1st-VCP block as follows except that speed of VCP, SRAM and DRAM is different, and the DRAM capacity is different: VCP (30 MHz, IC401) which is the video and communication processor, SRAM (256K×8-bit×4, IC403 to IC406) for VCP program code and data, DRAM (256k×16-bit×4, IC407 to IC410) for VCP video data and crystal oscillator (33 MHz, X401). The functions are realized by means of the software of the VCP. Therefore, even if the hardware has no abnormality, the system will not work correctly like the 1st-VCP if the downloading the program from the host CPU is not performed correctly. If downloading fails, it is important to locate that which board is cause of trouble, CPU-202 board or VPR-019 board (for both hardware and software). If downloading fails due to a defective VPR-019 board, the previously described host interface block, VCP (IC401) host bus interface, SRAM interface, or SRAMs (IC403 to IC406) is likely to be defective.

Fig. 3-5-6 shows connection around the 2nd-VCP block. The host bus interface is used for setting and reading the internal port, program downloading, sending and receiving the compressed data for the 1st-VCP (data multiplexing and demultiplexing function), receiving the read-out document from the scanner and sending the document data which is output to the printer. The 16-bit data line, 3-bit address line and other control lines are used, the interrupt is performed by the IRQ12, the DMA channel uses ch. 7 for writing (i. e., reading from memory) only to the VCP. (The DMA channels are set by the host interface circuit.) The video signal interface has the two signal systems: one is the CAM signal system which is input from the DAD-017/017P or DAD-018/018P/DAD-33/33P boards either which is selected by the video selector block, and the other is the SCN signal system which is output to the video selector block, then to the DAD-017/017P or DAD-018/018P/DAD-33/33P boards. The video signal interface consists of the sync, pixel clock and 8-bit Y and UV signals. The 1st-VCP block uses the sync signal of the SCN signal system as the main (which is output from the VCP) always, but the 2nd-VCP operates as a sub (which is input to the VCP) in order to synchronize with the 1st-VCP block in the case of outputting the SCN signal to the DAD-017/017P board. The SRAM interface is connected directly to the four 1M (128k×8) bit SRAMs. The SRAMs are used for storing the program code and data. If the SRAMs become defective, the VCP software will not work correctly, and the downloading cannot be performed correctly in some cases. The DRAM interface is connected directly to the four 4M (256k×16) bit DRAMs. Because the DRAMs are used for storing the video data, the video signal only is adversely affected if the DRAM interface becomes defective. The audio and TDM interfaces are not used in the 2nd-VCP block.

## 4. Video signal processing block

The video signal processing block performs functions such as video signal path setting between the DAD-017/017P, DAD-33/33P boards and the 1st-VCP, 2nd-VCP blocks, timing adjustment, scanning line conversion (NTSC, PAL↔CIF) and filtering of the transmission video signal.
(Refer to Fig. 3-5-2-1 VIDEO BLOCK.)

### 4-1. Transmission system (CAM system)

The video signals that are supplied from the DAD-017/017P and DAD-33/33P boards, are input to this board where the desired signal is selected and the signal processing is applied. The selected video signal is sent to the 1st-VCP block from which the video signal is transmitted as the moving picture and the 4CIF still picture. The selected video signal is also sent to the 2nd-VCP block from which the video signal is transmitted as a JPEG still picture.

The input video signals that are input from the DAD-017/017P and DAD-33/33P boards are sent to the respective selectors which select the video signals to be sent to the 1st-VCP and 2nd-VCP blocks respectively. (The selectors for the 1st-VCP block are IC101, IC102, IC106 and IC107, while the selectors for the 2nd-VCP block are IC103, IC104, IC105 and IC108.) The signal that is selected for the 2nd-VCP block is sent to the 2nd-VCP block directly from the selector. However, the signal that is selected for the 1st-VCP block takes different signal paths in the moving picture transmission mode and in the 4CIF still picture transmission mode. During the 4CIF still picture transmission mode, the selected signal (NTSC: 704×480, PAL: 704×576) is output to the 1st-VCP block while maintaining the original signal format. However, during the moving picture transmission mode, the selected signal passes through the FIR filter, line number conversion circuit and temporal filter, then is output to the 1st-VCP block in the CIF format (352×288). Either of the two signals is selected by the selector (IC122, IC123 and IC124).

During the moving picture transmission mode, the Y-signal bandwidth is reduced to one half by the FIR filter (IC111) so that no aliasing noise is generated when the video signal is converted to the CIF format. The UV signal and the sync signal are passed through the shift register (IC112) to match the delay time with the Y signal. Then the Y- and UV-signals are time-multiplexed to an 8-bit signal by IC113. The multiplexed signal is input to the field memory (IC114, IC115) where the odd field signal and the even field signal of the multiplexed signal are written into separate memories that are controlled by the memory controller (IC116). The multiplexed data are read from the field memory at the timing of the CIF format, which is also controlled by IC116. The read-out data is input to the weighted adder (IC117) where the data is converted to the CIF format signal by controlling the coefficients multiplied by the odd/even field outputs in every horizontal line and using adder. This control is performed by IC116. Thus the CIF format signal is created and sent to the temporal filter (IC118, IC119, IC120). In the temporal filter, the signal passes through a low-pass filter of the time-axis direction using the field recursive system. The low-pass filtering reduces the amount of information and increases the efficiency of moving picture compression by blurring the moving portions only. Noise reduction is performed at the same time using this function. The output signal from the temporal filter (CIF) is sent to the selector together with the 4CIF still picture input signal (NTSC, PAL), then one of them is selected and sent to the 1st-VCP block. Various controls such as selector setting, filter setting for heavy or light filtering and other functions are performed by the CPU board via the I/O port, 1st-VCP block and IC116.

### 4-2. Reception system (SCN system)

The video signal that is received as the moving picture and as the 4CIF still picture is input to this block from the 1st-VCP block. The video signal that is received as the JPEG still picture/document is input to this block from the 2nd-VCP block. One of the two input signals is selected in this block, passed through the signal processing and is output to both of the DAD-017/017P and DAD-33/33P boards.

The video signal that is output to the DAD-017/017P board can be either the selected signal between the signal coming from the 1st-VCP block and that coming from the 2nd-VCP block, or a mixture of the two signals for the PinP display. This selection of video signal is performed by the selector (IC173, IC174). Its control and PinP display timing generation are performed by IC147. This selector receives the output signal from the 2nd-VCP block directly, but receives the signal from the 1st-VCP block after the signal processing.

The video signal that is input from the 1st-VCP block is sent to the selector (IC151, IC152, IC154) together with the output signal to the transmission system 1st-VCP block. In this selector, one of the signals is selected. (The input signal from the 1st-VCP block is normally used. The other input is prepared for a bypass that is used to locate the source of troubles during maintenance.) The selected signal is input to the field memories (IC155, IC157 (Y), IC156, IC158 (UV)) and is written while the writing timing is controlled by the memory controller (IC153). Reading out is performed while the reading timing is controlled by the memory controller (IC153) in the same manner, and is output to the weighted adder (IC159 (Y), IC160 (UV)). This field memory and the weighted adder operate differently in the 4CIF still picture input mode and the moving picture input mode. When the 4CIF still picture is input, it is supplied in the format (interlace) of either NTSC (704×480) or PAL (704×576), so that the written data is read out as is without performing the horizontal line number conversion. When the moving picture is input, the video signal is supplied in the non-interlaced format of 704×288, so the horizontal line number conversion is performed here. The video signals that are read from the two field memories at the timing of NTSC or PAL format are multiplied by coefficients (which are controlled by IC153) and added by the weighting adder in every horizontal line, and are output as the NTSC or PAL format video signal. Among the video signal components, the UV signals are passed through the color corrector (IC161) and are input to the selector (IC173, IC174) while the Y-signal is directly input to the selector. Either this input or the input signal coming from the 2nd-VCP block is selected and is output to the DAD-017/017P board.

Only the video signal that is input from the 2nd-VCP block is output to the DAD-33/33P board (dual monitor board) through IC175 that acts as a flip-flop.

Regarding the sync signal generation, the 1st-VCP block generates the H. sync and V. sync from the reference clocks (27 MHz, 13.5 MHz) that are input from the DAD-017/017P board. These sync signals are sent to IC153 where the NTSC or PAL sync signal is generated in synchronism with the field memory output, and are output to the DAD-017/017P board via the flip-flop (IC171). The 1st-VCP block operates always in the master mode of the sync system, while the 2nd-VCP block operates both in the single monitor mode and the dual monitor mode that have different sync system operations. In single monitor mode, the sync signal that is generated by IC153 is used as the reference signal to which the 2nd-VCP block is locked and outputs the video signal and sync signal (slave mode). In dual monitor mode, on the other hand, the 2nd-VCP block generates the sync signals by itself using the clock signal that is input from the DAD-017/017P board, and outputs the video signal that is locked to the internally generated sync signal (master mode).

The sync signal that is output to the DAD-017/017P board is the sync signal that is output from IC153 through a flip-flop (IC171). The DAD-017/017P board performs video encoding using the sync signal as the reference and outputs the NTSC or PAL video signal to external circuit. The sync signal that is output to the DAD-33/33P board is the sync signal that is supplied from IC153 in signal monitor mode, or the sync signal that is output from the 2nd-VCP block via the flip-flop (IC136) in dual monitor mode. The DAD-33/33P board performs video encoding using the sync signal as the reference and outputs the NTSC or PAL video signal to the external circuit.

If the video signal processing block becomes defective, it affects the video signal only. To locate the source of trouble, first determine whether the 1st-VCP input/output system or the 2nd-VCP input/output system is defective. Then determine whether the transmission system (CAM system) or the reception system (SCN system) is defective using the debug connection, loopback connection or test signal generation using VCP. Then use the 1st-VCP bypass function and the NTSC/PAL→CIF converter bypass function that can be activated by the selector setting, in order to locate the source of trouble. At the same time, locate the source of trouble by following the signal flow from input to output.

### 5. NETW-VCP interface block

The NETW-VCP interface block performs matching of the signal between the 1st-VCP block which is multiplexing and demultiplexing data, and the external line interface blocks, as shown in the area which is encircled by the dotted line of illustration. Selection of the signal supplied from external lines is performed by this block. (Fig. 3-5-7)
The ICs consisting of the NETW-VCP interface block are the ASIC (IC201) which is specially designed, and the crystal oscillator (X201) oscillating the operation clock for the ASIC. The 1st-VCP block inputs and outputs the multiplexed data (the data before demultiplexing) through the TDM interface as described before. Because the TDM interface uses only one serial signal line for both sending and receiving, the TDM interface cannot be connected to the external line interface blocks. For example, in the case of the BRI interface of ISDN is selected as the external line interface, number of the 64 kbps serial signal lines for each B channel changes from 1 to 6 lines depending upon the number of using lines. In the case that the leased line (TA) interface is used, the two serial signal lines are used by DUAL V.35 and others. These multiple serial signal lines are bunched as one transmission line by establishing synchronization between the signals and vice versa. This is the main function of the NETW-VCP interface block. The function of detecting the bearer rate (transmission rate) in the H0 mode of the leased line (TA) interface is performed by this IC too.
If the NETW-VCP interface block becomes defective, the data transfer with the external line interface block becomes defective. As a result, data communication becomes impossible. If a trouble occurs, confirm first that the operation of setting to IC201 are correct by reading/writing from or to the resistor inside IC201, then locate cause of the trouble by setting the loop back inside the IC.
In addition, the output port in which the settings for the video selector block are performed, and the input/output port for the signal transfer between the host CPU and the SIRCS interface block, are included in IC201. The NETW-VCP interface blocks is likely to be defective, if the settings to these blocks cannot be performed by the host CPU.

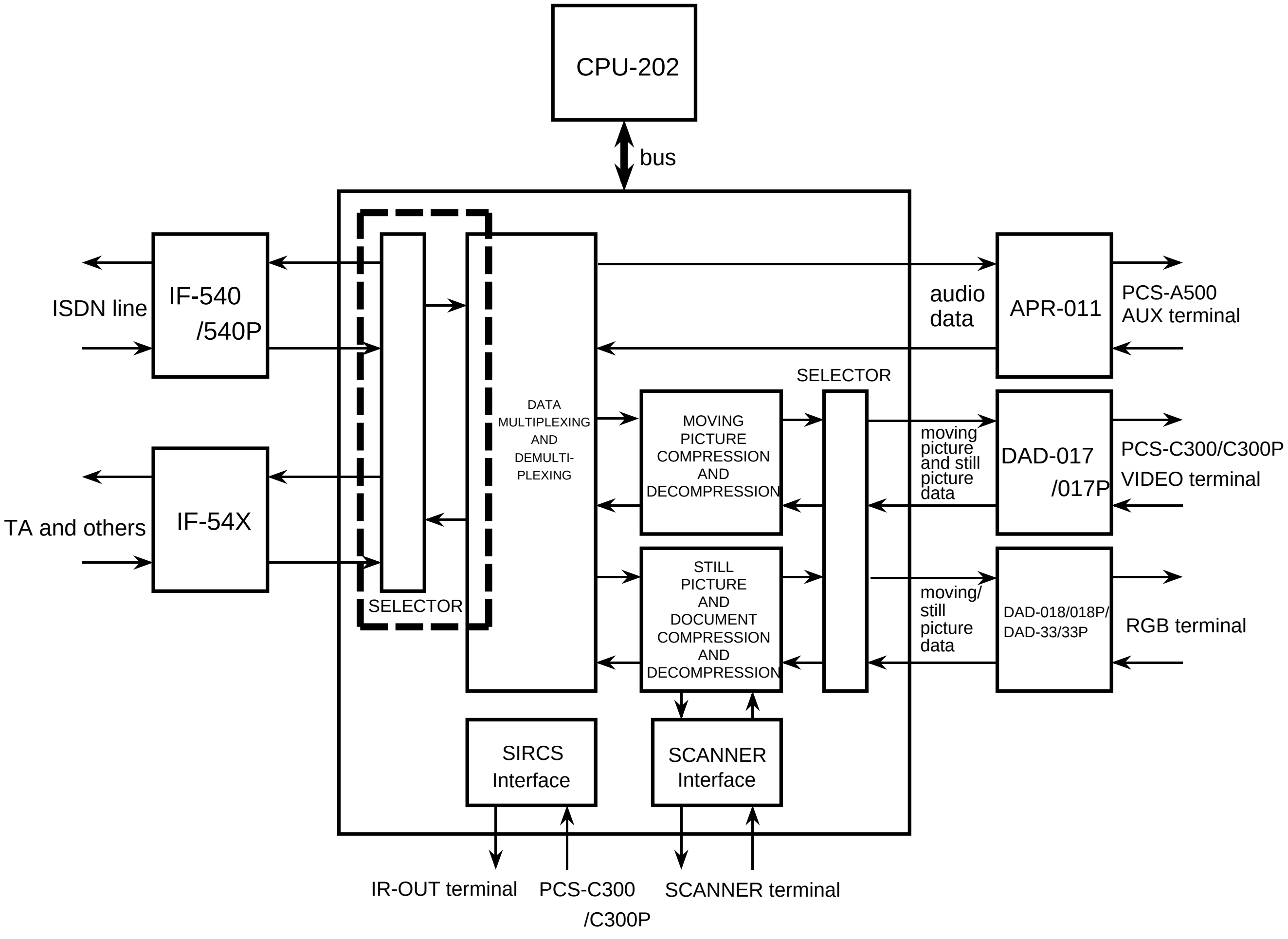
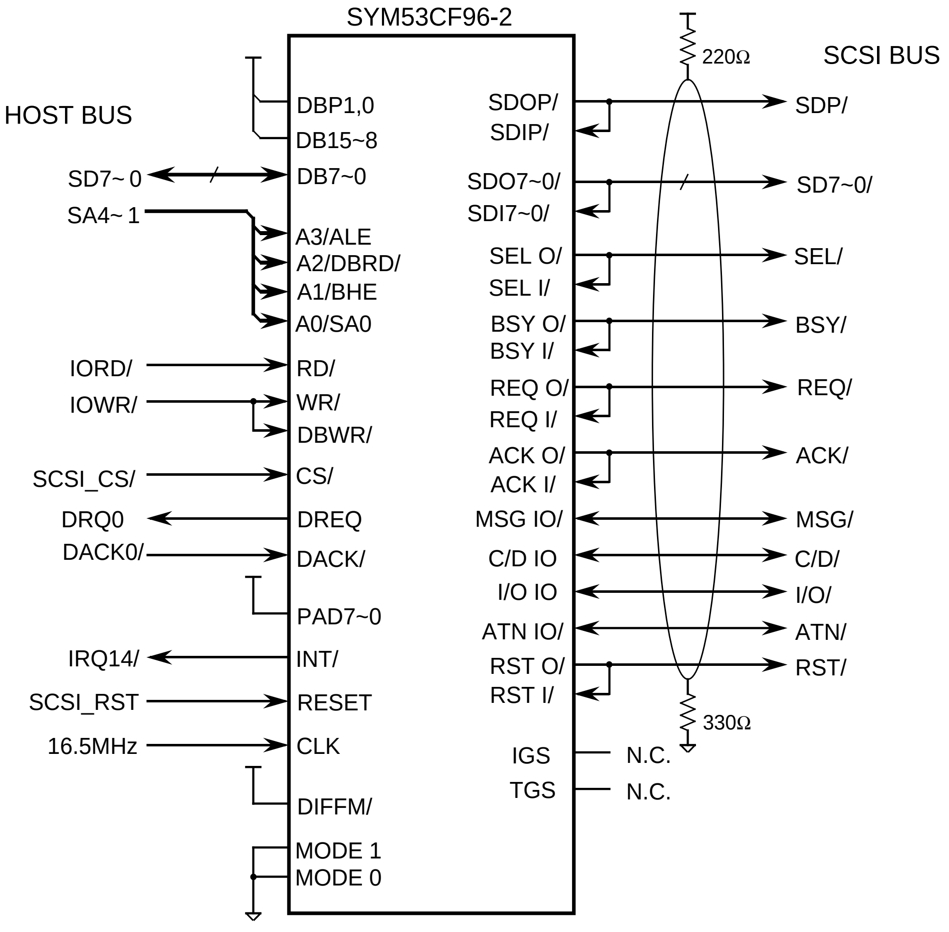

CPU-202
bus
ISDN line
IF-540
/540P
TA and others
IF-54X
SELECTOR
DATA MULTIPLEXING AND DEMULTI-PLEXING
MOVING PICTURE COMPRESSION AND DECOMPRESSION
STILL PICTURE AND DOCUMENT COMPRESSION AND DECOMPRESSION
SELECTOR
audio data
APR-011
PCS-A500
AUX terminal
moving picture and still picture data
DAD-017
/017P
PCS-C300/C300P
VIDEO terminal
moving/still picture data
DAD-018/018P/
DAD-33/33P
RGB terminal
SIRCS Interface
SCANNER Interface
IR-OUT terminal
PCS-C300
/C300P
SCANNER terminal

Fig. 3-5-7 Function Blocks of NETW-VCP Interface Block

### 6. SCSI interface block

The SCSI interface block is connected to the document scanner via the SCSI bus. It has the function of controlling the scanner and reading the document data from the scanner. Fig. 3-5-8 shows connection diagram of the SCSI interface block.

The SCSI bus (CN501) is connected directly (with the filter for inserted to reduce radiated EMI problems) to the SCSI controller (IC501) with termination resistor. Data transfer with the SCSI controller is performed using the host bus only. The document data which is received by the host CPU is sent again to the 2nd-VCP block via the host bus. Interface with the host bus is established using the 4-bit address and 8-bit data with the interrupt of IRQ14. The DMA channel is assigned to ch. 0.
If this block becomes defective, the problem such that the correct data cannot be read, or scanner cannot be controlled, occurs. Check connection between the connector CN501 and cable, then check interface with the host bus using the I/O verification technique. After the connections are confirmed, check IC501 if it is defective.


SYM53CF96-2
HOST BUS
SCSI BUS
220Ω
330Ω
SD7~ 0
SA4~ 1
IORD/
IOWR/
SCSI_CS/
DRQ0
DACK0/
IRQ14/
SCSI_RST
16.5MHz
DBP1,0
DB15~8
DB7~0
A3/ALE
A2/DBRD/
A1/BHE
A0/SA0
RD/
WR/
DBWR/
CS/
DREQ
DACK/
PAD7~0
INT/
RESET
CLK
DIFFM/
MODE 1
MODE 0
SDOP/
SDIP/
SDO7~0/
SDI7~0/
SEL O/
SEL I/
BSY O/
BSY I/
REQ O/
REQ I/
ACK O/
ACK I/
MSG IO/
C/D IO
I/O IO
ATN IO/
RST O/
RST I/
IGS
TGS
N.C.
N.C.
SDP/
SD7~0/
SEL/
BSY/
REQ/
ACK/
MSG/
C/D/
I/O/
ATN/
RST/

!SCSI_CS/ = (340h ≦ I/O Address < 360h) & !AEN
SCSI_RST = HOST_RESET | !PLD_RSTVCP2*
IRQ14 = !IRQ14/
＊ : I/O Address of PLD_RSTVCP2 is "36Eh"

Fig. 3-5-8 Connection of SCSI Interface Block

## 7. SIRCS interface block

The SIRCS interface block performs decoding the received SIRCS signal which is input to CN-1218 board from the infra red receiver of the camera unit (PCS-C300/C300P), and encoding the transmitting SIRCS signal which is output to the IR-OUT terminals (CN201 and CN202) for controlling the monitor or TV set, using the microcontroller (IC202) and crystal oscillator (X202) generating clock signal for IC202. After the SIRCS signal is received and decoded, it is sent to the host CPU via I/O port of IC201 (NETW-VCP interface block) and the host bus. IRQ1 is used for interrupt to the host CPU during SIRCS signal reception. The SIRCS signal which is encoded and transmitted, is set using the I/O port of IC201 (NETW-VCP interface block) from the host CPU. (Refer to Fig. 3-5-9.) If the SIRCS signal cannot be sent or received, it is recommended to check the signal on the signal path first before starting to check IC202.

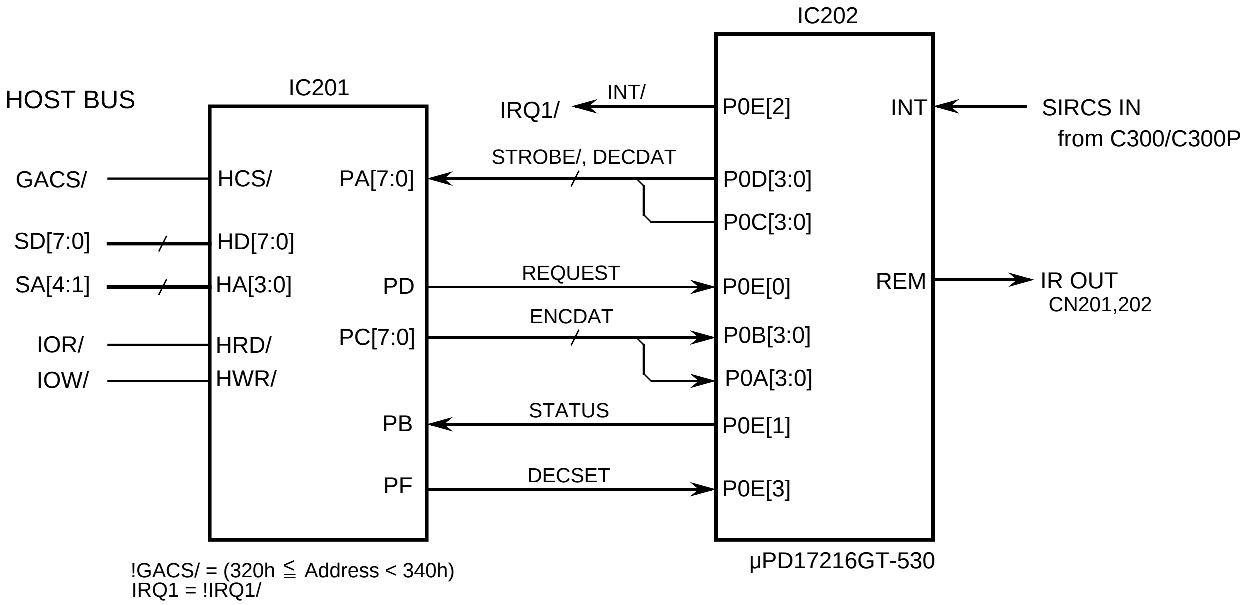

IC202
HOST BUS
IC201
IRQ1/
INT/
P0E[2]
INT
SIRCS IN
from C300/C300P
GACS/
HCS/
PA[7:0]
STROBE/, DECDAT
P0D[3:0]
P0C[3:0]
SD[7:0]
HD[7:0]
SA[4:1]
HA[3:0]
PD
REQUEST
P0E[0]
REM
IR OUT
CN201,202
ENCDAT
PC[7:0]
P0B[3:0]
IOR/
HRD/
IOW/
HWR/
P0A[3:0]
STATUS
PB
P0E[1]
DECSET
PF
P0E[3]
μPD17216GT-530
!GACS/ = (320h ≦ Address < 340h)
IRQ1 = !IRQ1/

Fig. 3-5-9 Connection Diagram of the SIRCS Interface Block

### 3-5-3. VPR-019 Board Reset and STANDBY Mode

Reset of all devices on the VPR-019 board is performed by the RSTDRV signal of the host bus. However, the two VCPs and the SCSI controller can be reset by the PLD (IC1) output (which can be set from the host CPU).
These are two systems for reset. One is the 1st-VCP (IC301), the other is a set of 2nd-VCP (IC401) and the SCSI controller (IC501). The 1st-VCP can be reset by writing the lowest bit = "1" of the data to the address 31Ch or 31Eh. The 2nd-VCP and SCSI controller can be reset by writing the lowest bit = "1" of the data to the address 36Ch or 36Eh. When "0" is written, reset is canceled. Because the initial state after the RSTDRV signal of the bus is set to active once, is reset, the reset must be canceled by means of software immediately after the main power is turned on. When the setting and canceling system for reset become defective, the VCP and SCSI controllers do not work correctly.
The VPR-019 board stops suppling the clock signal to the VCP and SCSI controllers in the STANDBY mode for saving the power consumption. Therefore, the VCP and SCSI controllers must be reset after the system returns to normal operating mode from the STANDBY (i.e., after starting supplying the clock). The reset state may be maintained in the STANDBY mode normally.

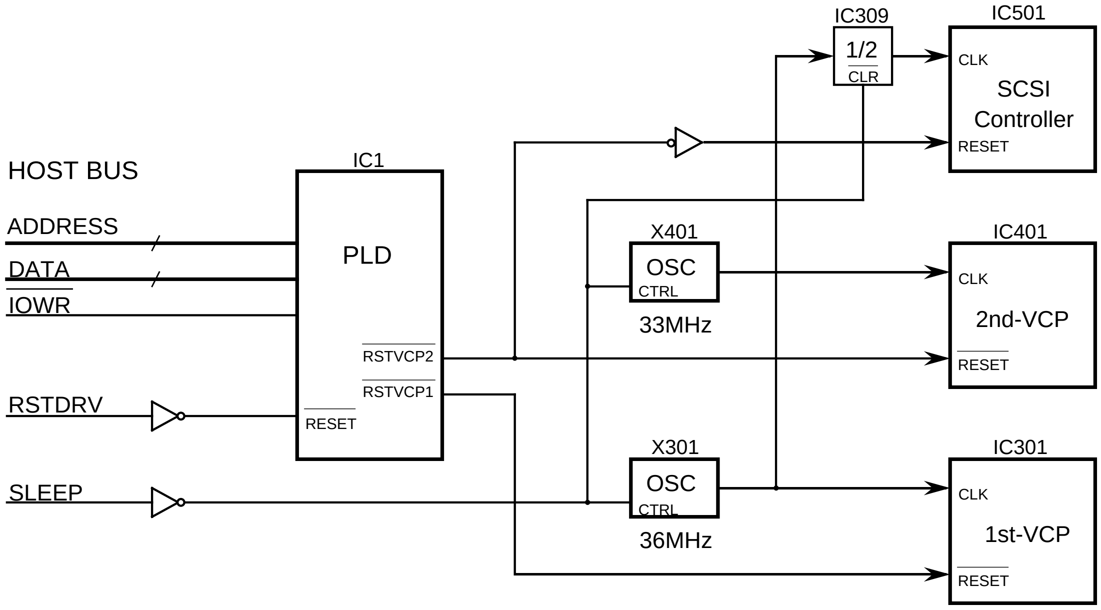

IC309
1/2
CLR
IC501
CLK
SCSI Controller
RESET
HOST BUS
IC1
ADDRESS
DATA
IOWR
PLD
RSTVCP2
RSTVCP1
RESET
RSTDRV
SLEEP
X401
OSC
CTRL
33MHz
IC401
CLK
2nd-VCP
RESET
X301
OSC
CTRL
36MHz
IC301
CLK
1st-VCP
RESET

Fig. 3-5-10 VPR-019 Board Reset and STANDBY Mode

## 3-5-4. VPR-019 Board I/O Map

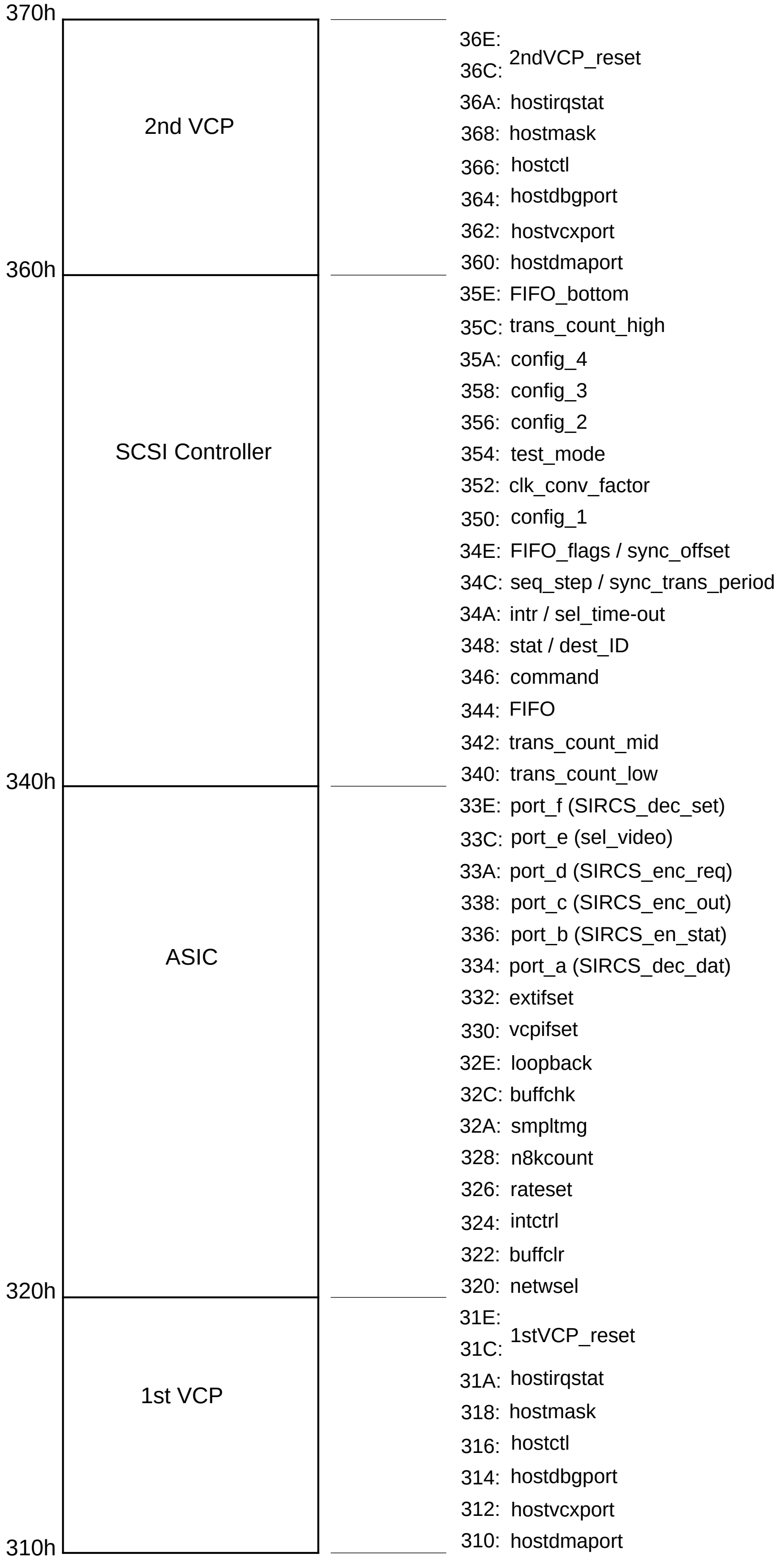

370h
2nd VCP
360h
SCSI Controller
340h
ASIC
320h
1st VCP
310h
36E:
36C: 2ndVCP_reset
36A: hostirqstat
368: hostmask
366: hostctl
364: hostdbgport
362: hostvcxport
360: hostdmaport
35E: FIFO_bottom
35C: trans_count_high
35A: config_4
358: config_3
356: config_2
354: test_mode
352: clk_conv_factor
350: config_1
34E: FIFO_flags / sync_offset
34C: seq_step / sync_trans_period
34A: intr / sel_time-out
348: stat / dest_ID
346: command
344: FIFO
342: trans_count_mid
340: trans_count_low
33E: port_f (SIRCS_dec_set)
33C: port_e (sel_video)
33A: port_d (SIRCS_enc_req)
338: port_c (SIRCS_enc_out)
336: port_b (SIRCS_en_stat)
334: port_a (SIRCS_dec_dat)
332: extifset
330: vcpifset
32E: loopback
32C: buffchk
32A: smpltmg
328: n8kcount
326: rateset
324: intctrl
322: buffclr
320: netwsel
31E:
31C: 1stVCP_reset
31A: hostirqstat
318: hostmask
316: hostctl
314: hostdbgport
312: hostvcxport
310: hostdmaport

Fig. 3-5-11 VPR-019 Board I/O Map

## 3-6. VPR-019 BOARD TROUBLESHOOTING

### [Equipment required]

- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Dual monitor board (PCS-G510/G510P)
- V.35 board (PCS-I500)
- V.35 cable (PCS-K32) (two cables)
- Oscilloscope
- Video monitor
- Audio signal source (CD, etc.)
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

### [Service tools]

- Loop back tool (Sony part number: J-6387-400-B)
- RS-232C terminal (PC/AT compatible machine with communication software “CCT”)
- RS-232C cross cable
- S cable

### [Preparation]

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the V.35 board (PCS-I500) and the dual monitor board (PCS-G510/G510P) to the specified slots.
3) Prepare an oscilloscope.
4) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
5) Connect the V.35 PORT1-A and the RS-366 PORT1-A terminal of the loop back tool to the V.35-A terminal of the rollabout processor (PCS-P500/P500P) using the V.35 cable (PCS-K32).
6) Connect the V.35 PORT1-B and the RS-366 PORT1-B terminal of the loop back tool to the V.35-B terminal of the rollabout processor (PCS-P500/P500P) using the V.35 cable (PCS-K32).
7) Select the following positions of the loop back tool.
   V.35 communication speed select switch: 64K position
   CTRL: OFF (upper)
   V.35: OFF (upper)
8) Turn on the main power of the loop back tool.
9) Start up the communication software “CCT” which is installed in the terminal.
   Set the communication speed to 9600 bps.
10) Turn on the main power of the PCS-5100/5100P system.
11) Turn on the main power from the remote commander (PCS-R500).

**[Precautions]**

(1) Start repair after making sure that the VPR-019 board is defective using the board exchange technique.

(2) Turn on the main power of the loop back tool prior to turn on the main power of the PCS-P500/P500P.

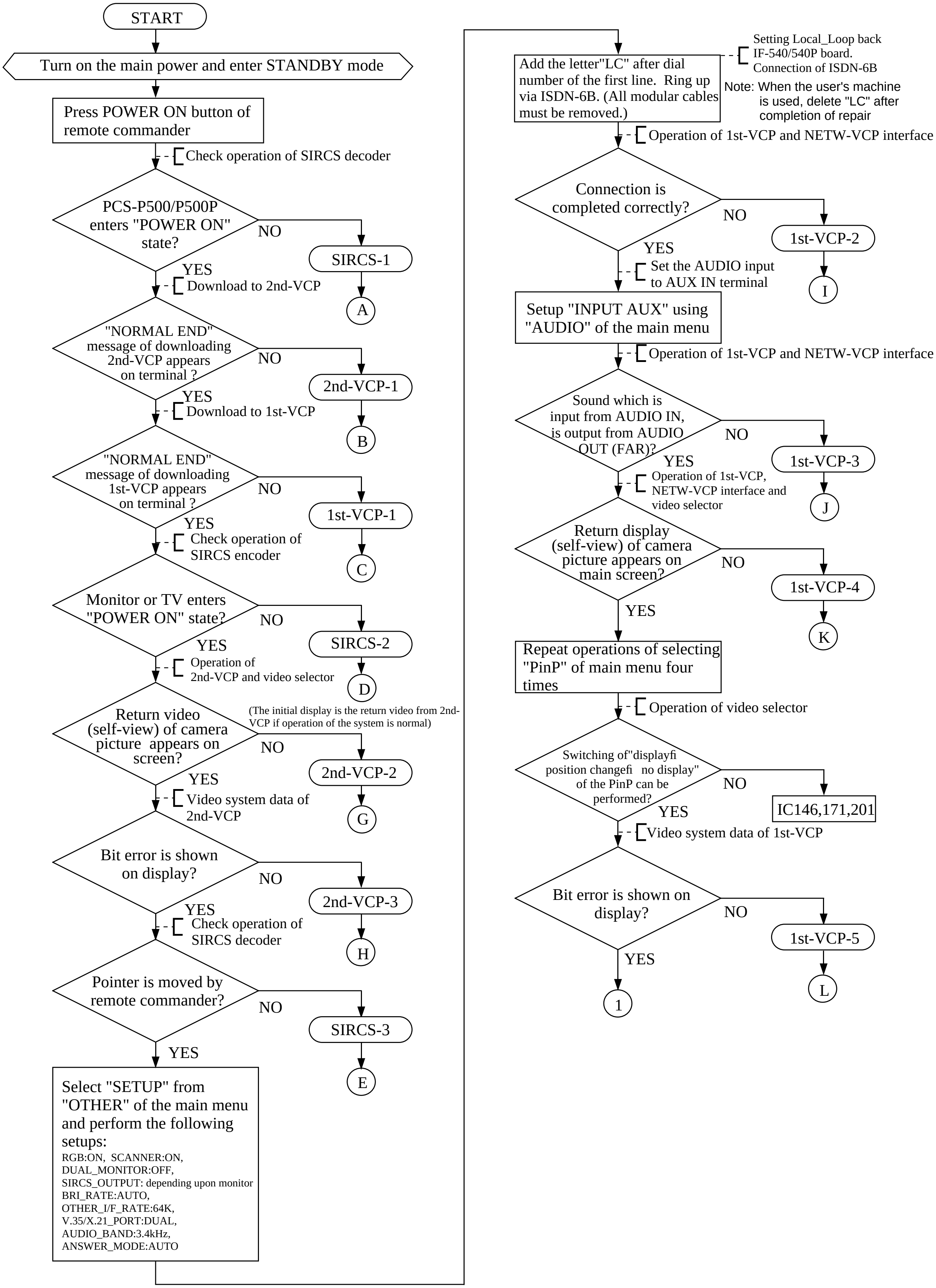
(3) Before proceeding to check each item of the troubleshooting charts attached, confirm that the LED D2 (red, indicating RESET) is turned off and D3 (green, indicating POWER ON)is turned on when the PCS-P500/P500P is powered on. If LED indication is different from the normal lighting, check IC6, IC7, IC204, switch S1 and CN41.

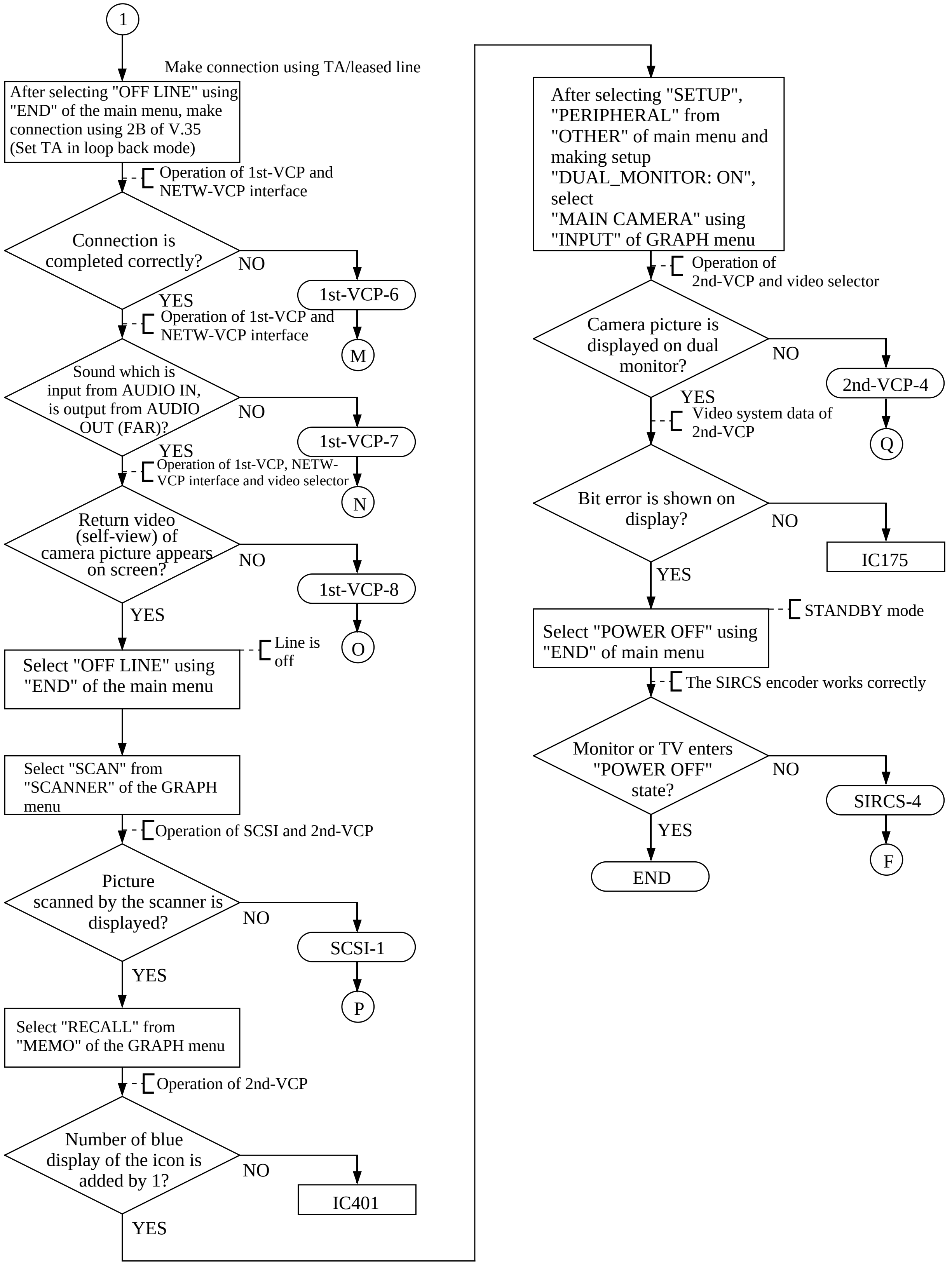
(4) Proceed to the operation check in the sequence shown in the attached charts. Each chart is configured on the premise that all of the previous items to be checked are normal. If any abnormality in the previous item is ignored and the next item is executed, any correct judgment cannot be expected.

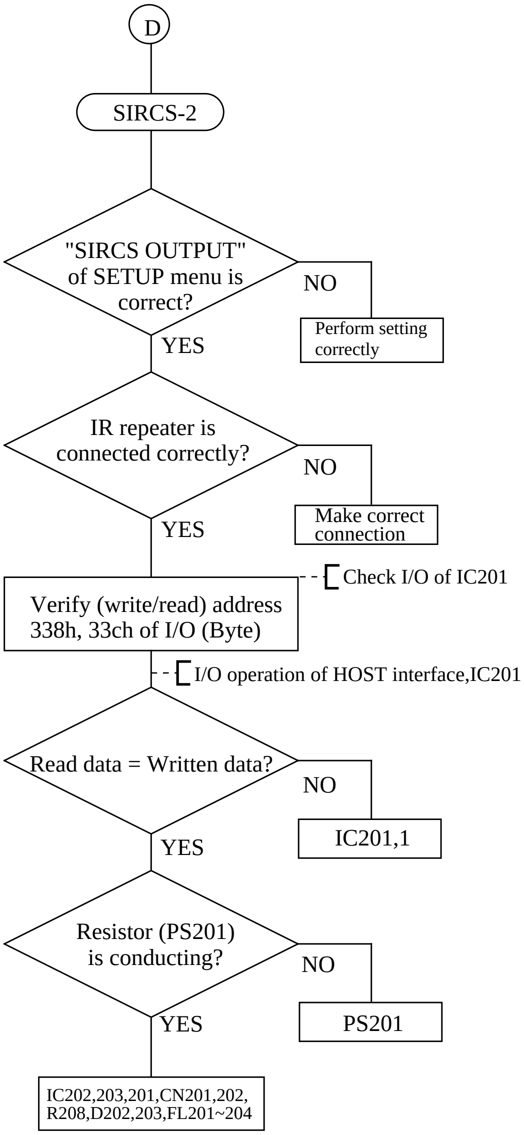
(5) Many command inputs are used from the terminal. It is the premise that the debugger “PCS>” can be used.

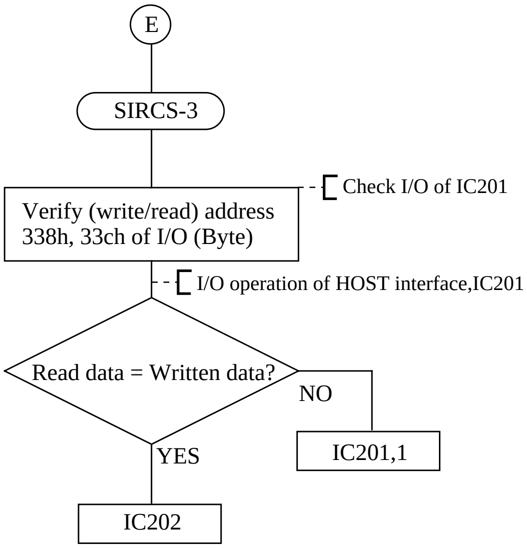
(6) When repair work of any circuit board is completed, perform checking using the troubleshooting flow charts to confirm that the items are checked to be correct even though the items have already been checked before the board is repaired. Thus any new defect which is accompanied by the repair work, can be found.

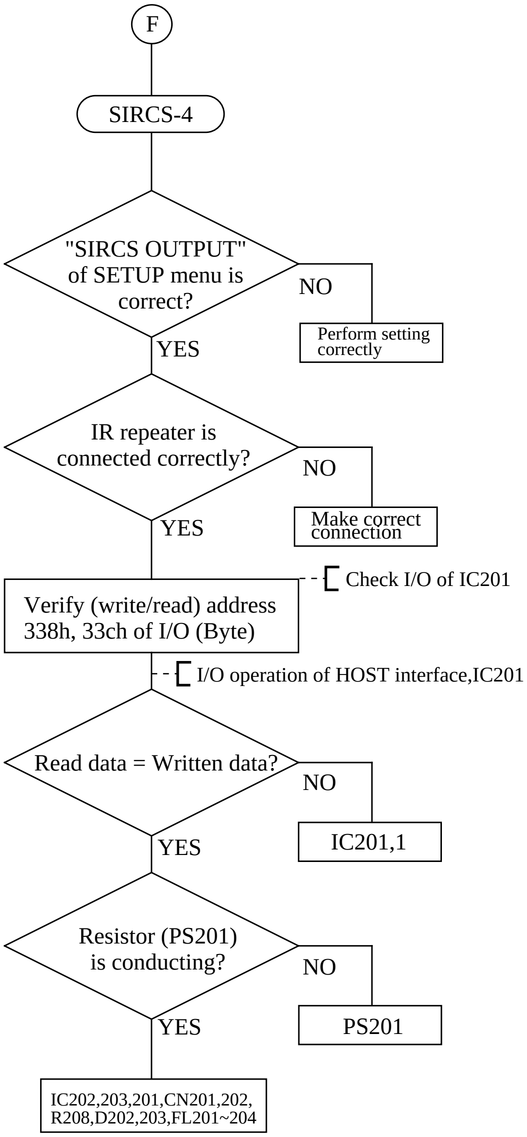
(7) In order to input any command from the terminal, enter the debug mode when the main power is turned on.

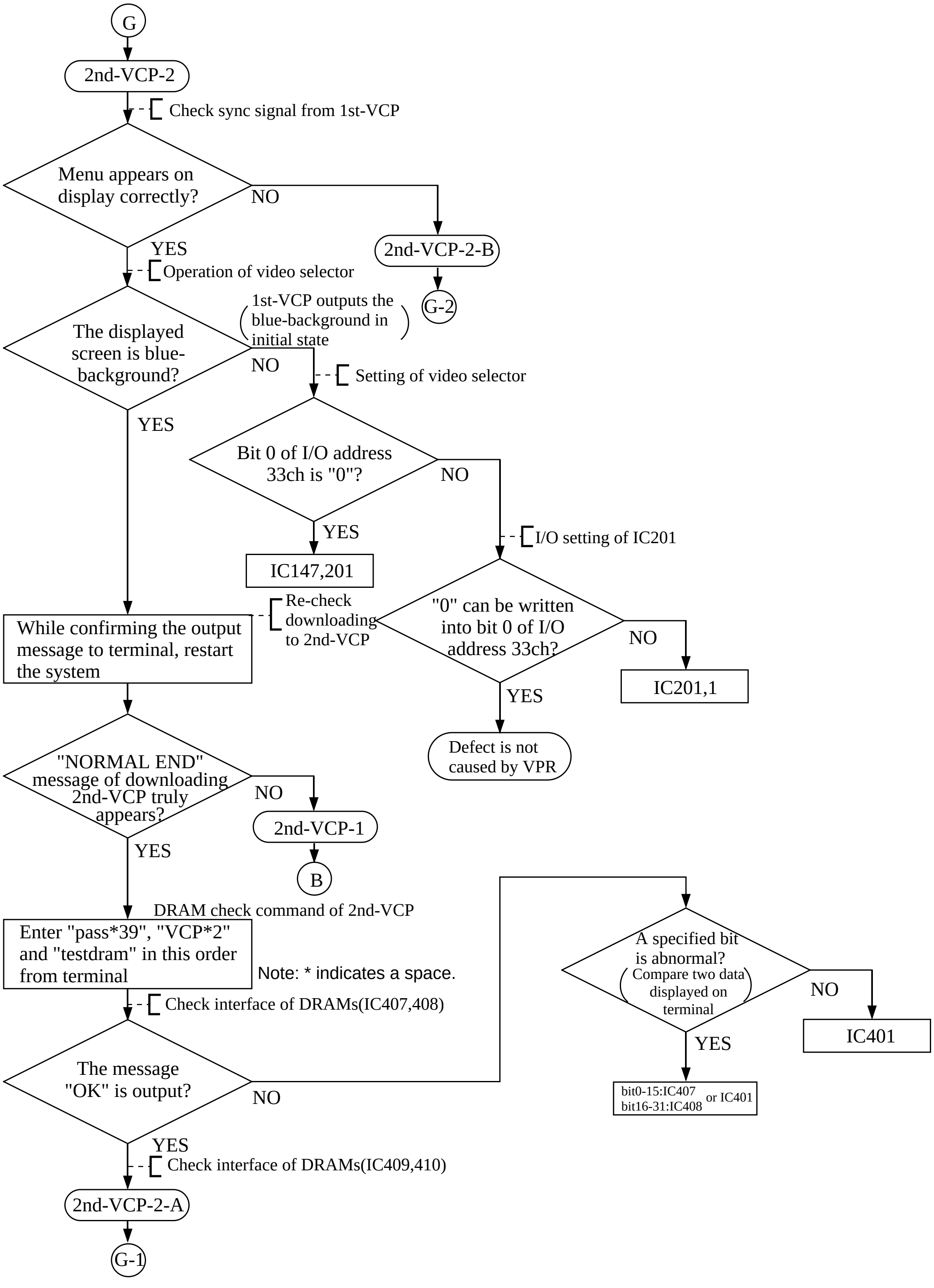

START
Turn on the main power and enter STANDBY mode
Press POWER ON button of remote commander
Check operation of SIRCS decoder
PCS-P500/P500P enters "POWER ON" state?
NO
SIRCS-1
A
YES
Download to 2nd-VCP
"NORMAL END" message of downloading 2nd-VCP appears on terminal ?
NO
2nd-VCP-1
B
YES
Download to 1st-VCP
"NORMAL END" message of downloading 1st-VCP appears on terminal ?
NO
1st-VCP-1
C
YES
Check operation of SIRCS encoder
Monitor or TV enters "POWER ON" state?
NO
SIRCS-2
D
YES
Operation of 2nd-VCP and video selector
Return video (self-view) of camera picture appears on screen?
(The initial display is the return video from 2nd-VCP if operation of the system is normal)
NO
2nd-VCP-2
G
YES
Video system data of 2nd-VCP
Bit error is shown on display?
NO
2nd-VCP-3
H
YES
Check operation of SIRCS decoder
Pointer is moved by remote commander?
NO
SIRCS-3
E
YES
Select "SETUP" from "OTHER" of the main menu and perform the following setups:
RGB:ON, SCANNER:ON,
DUAL_MONITOR:OFF,
SIRCS_OUTPUT: depending upon monitor
BRI_RATE:AUTO,
OTHER_I/F_RATE:64K,
V.35/X.21_PORT:DUAL,
AUDIO_BAND:3.4kHz,
ANSWER_MODE:AUTO
Add the letter"LC" after dial number of the first line. Ring up via ISDN-6B. (All modular cables must be removed.)
Setting Local_Loop back IF-540/540P board. Connection of ISDN-6B
Note: When the user's machine is used, delete "LC" after completion of repair
Operation of 1st-VCP and NETW-VCP interface
Connection is completed correctly?
NO
1st-VCP-2
I
YES
Set the AUDIO input to AUX IN terminal
Setup "INPUT AUX" using "AUDIO" of the main menu
Operation of 1st-VCP and NETW-VCP interface
Sound which is input from AUDIO IN, is output from AUDIO OUT (FAR)?
NO
1st-VCP-3
J
YES
Operation of 1st-VCP, NETW-VCP interface and video selector
Return display (self-view) of camera picture appears on main screen?
NO
1st-VCP-4
K
YES
Repeat operations of selecting "PinP" of main menu four times
Operation of video selector
Switching of"displayfi position changefi no display" of the PinP can be performed?
NO
IC146,171,201
YES
Video system data of 1st-VCP
Bit error is shown on display?
NO
1st-VCP-5
L
YES
1


1
Make connection using TA/leased line
After selecting "OFF LINE" using "END" of the main menu, make connection using 2B of V.35 (Set TA in loop back mode)
Operation of 1st-VCP and NETW-VCP interface
Connection is completed correctly?
NO
1st-VCP-6
M
YES
Operation of 1st-VCP and NETW-VCP interface
Sound which is input from AUDIO IN, is output from AUDIO OUT (FAR)?
NO
1st-VCP-7
N
YES
Operation of 1st-VCP, NETW-VCP interface and video selector
Return video (self-view) of camera picture appears on screen?
NO
1st-VCP-8
O
YES
Line is off
Select "OFF LINE" using "END" of the main menu
Select "SCAN" from "SCANNER" of the GRAPH menu
Operation of SCSI and 2nd-VCP
Picture scanned by the scanner is displayed?
NO
SCSI-1
P
YES
Select "RECALL" from "MEMO" of the GRAPH menu
Operation of 2nd-VCP
Number of blue display of the icon is added by 1?
NO
IC401
YES
After selecting "SETUP", "PERIPHERAL" from "OTHER" of main menu and making setup "DUAL_MONITOR: ON", select "MAIN CAMERA" using "INPUT" of GRAPH menu
Operation of 2nd-VCP and video selector
Camera picture is displayed on dual monitor?
NO
2nd-VCP-4
Q
YES
Video system data of 2nd-VCP
Bit error is shown on display?
NO
IC175
YES
STANDBY mode
Select "POWER OFF" using "END" of main menu
The SIRCS encoder works correctly
Monitor or TV enters "POWER OFF" state?
NO
SIRCS-4
F
YES
END

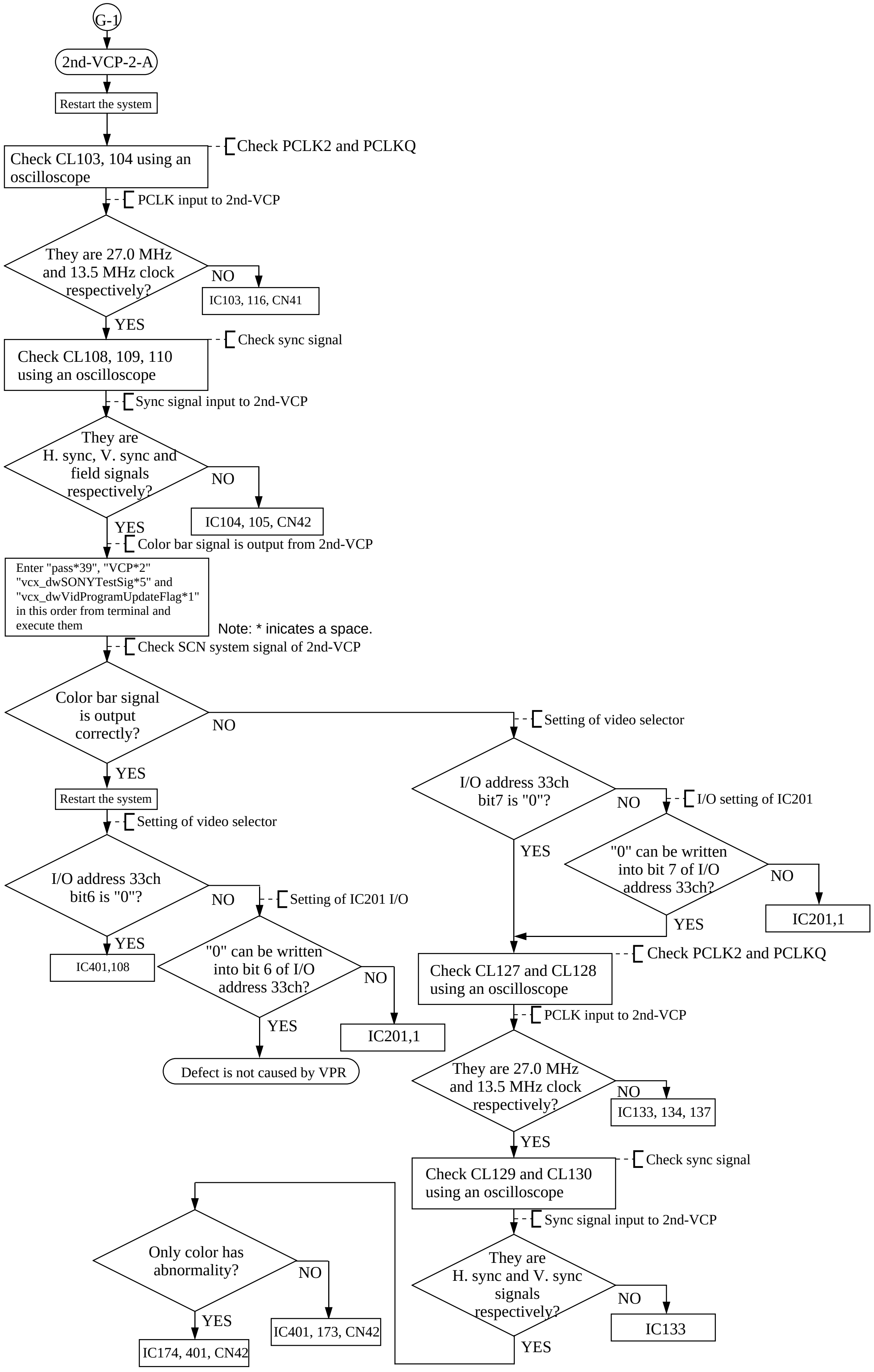

D
SIRCS-2
"SIRCS OUTPUT" of SETUP menu is correct?
NO
Perform setting correctly
YES
IR repeater is connected correctly?
NO
Make correct connection
YES
Verify (write/read) address 338h, 33ch of I/O (Byte)
Check I/O of IC201
I/O operation of HOST interface,IC201
Read data = Written data?
NO
IC201,1
YES
Resistor (PS201) is conducting?
NO
PS201
YES
IC202,203,201,CN201,202, R208,D202,203,FL201~204

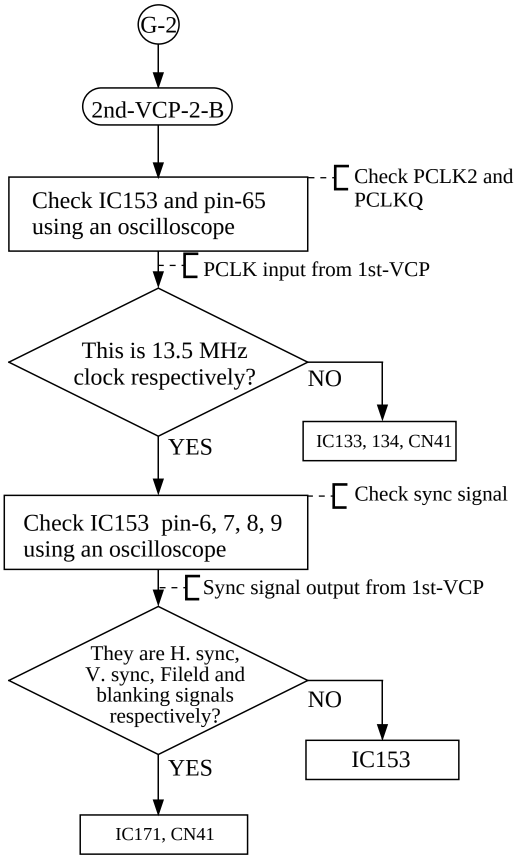

E
SIRCS-3
Verify (write/read) address 338h, 33ch of I/O (Byte)
Check I/O of IC201
I/O operation of HOST interface,IC201
Read data = Written data?
NO
IC201,1
YES
IC202

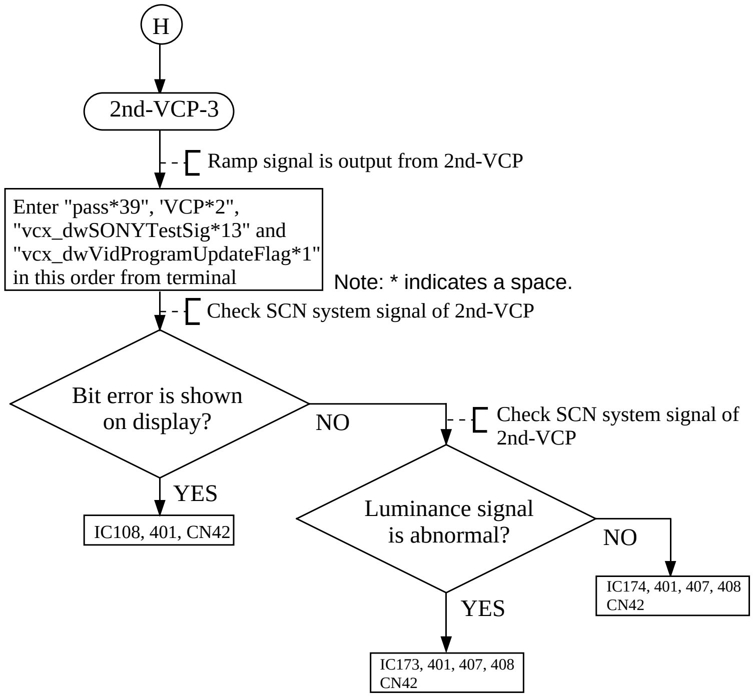

F
SIRCS-4
"SIRCS OUTPUT" of SETUP menu is correct?
NO
Perform setting correctly
YES
IR repeater is connected correctly?
NO
Make correct connection
YES
Verify (write/read) address 338h, 33ch of I/O (Byte)
Check I/O of IC201
I/O operation of HOST interface,IC201
Read data = Written data?
NO
IC201,1
YES
Resistor (PS201) is conducting?
NO
PS201
YES
IC202,203,201,CN201,202, R208,D202,203,FL201~204


G
2nd-VCP-2
Check sync signal from 1st-VCP
Menu appears on display correctly?
NO
2nd-VCP-2-B
G-2
YES
Operation of video selector
1st-VCP outputs the blue-background in initial state
The displayed screen is blue-background?
NO
Setting of video selector
YES
Bit 0 of I/O address 33ch is "0"?
NO
YES
IC147,201
I/O setting of IC201
Re-check downloading to 2nd-VCP
"0" can be written into bit 0 of I/O address 33ch?
NO
IC201,1
YES
Defect is not caused by VPR
While confirming the output message to terminal, restart the system
"NORMAL END" message of downloading 2nd-VCP truly appears?
NO
2nd-VCP-1
B
YES
DRAM check command of 2nd-VCP
Enter "pass*39", "VCP*2" and "testdram" in this order from terminal
Check interface of DRAMs(IC407,408)
The message "OK" is output?
NO
A specified bit is abnormal?
Compare two data displayed on terminal
NO
IC401
YES
bit0-15:IC407
bit16-31:IC408
or IC401
YES
Check interface of DRAMs(IC409,410)
2nd-VCP-2-A
G-1

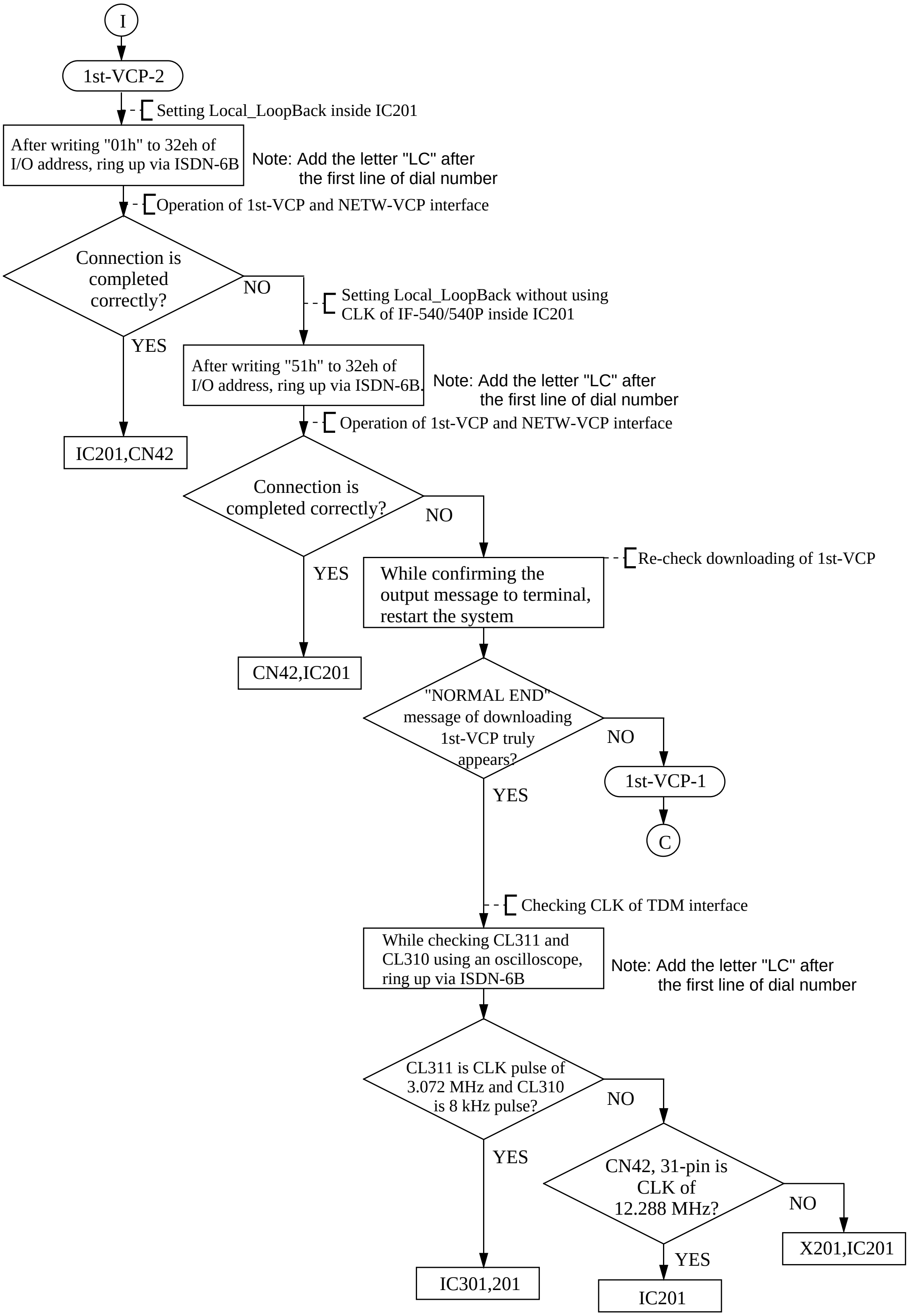
Note: * indicates a space.

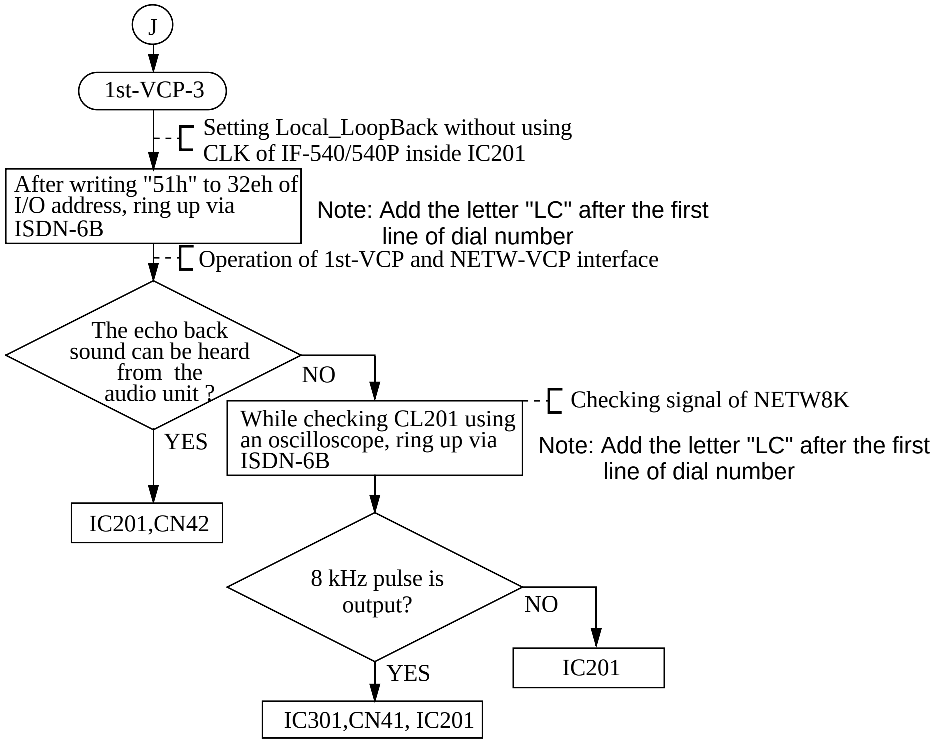

G-1
2nd-VCP-2-A
Restart the system
Check CL103, 104 using an oscilloscope
Check PCLK2 and PCLKQ
PCLK input to 2nd-VCP
They are 27.0 MHz and 13.5 MHz clock respectively?
NO
IC103, 116, CN41
YES
Check CL108, 109, 110 using an oscilloscope
Check sync signal
Sync signal input to 2nd-VCP
They are H. sync, V. sync and field signals respectively?
NO
IC104, 105, CN42
YES
Color bar signal is output from 2nd-VCP
Enter "pass*39", "VCP*2" "vcx_dwSONYTestSig*5" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal and execute them
Note: * inicates a space.
Check SCN system signal of 2nd-VCP
Color bar signal is output correctly?
NO
YES
Restart the system
Setting of video selector
I/O address 33ch bit6 is "0"?
NO
Setting of IC201 I/O
YES
IC401,108
"0" can be written into bit 6 of I/O address 33ch?
NO
IC201,1
YES
Defect is not caused by VPR
Setting of video selector
I/O address 33ch bit7 is "0"?
NO
I/O setting of IC201
YES
"0" can be written into bit 7 of I/O address 33ch?
NO
IC201,1
YES
Check CL127 and CL128 using an oscilloscope
Check PCLK2 and PCLKQ
PCLK input to 2nd-VCP
They are 27.0 MHz and 13.5 MHz clock respectively?
NO
IC133, 134, 137
YES
Check CL129 and CL130 using an oscilloscope
Check sync signal
Sync signal input to 2nd-VCP
They are H. sync and V. sync signals respectively?
NO
IC133
YES
Only color has abnormality?
NO
IC401, 173, CN42
YES
IC174, 401, CN42

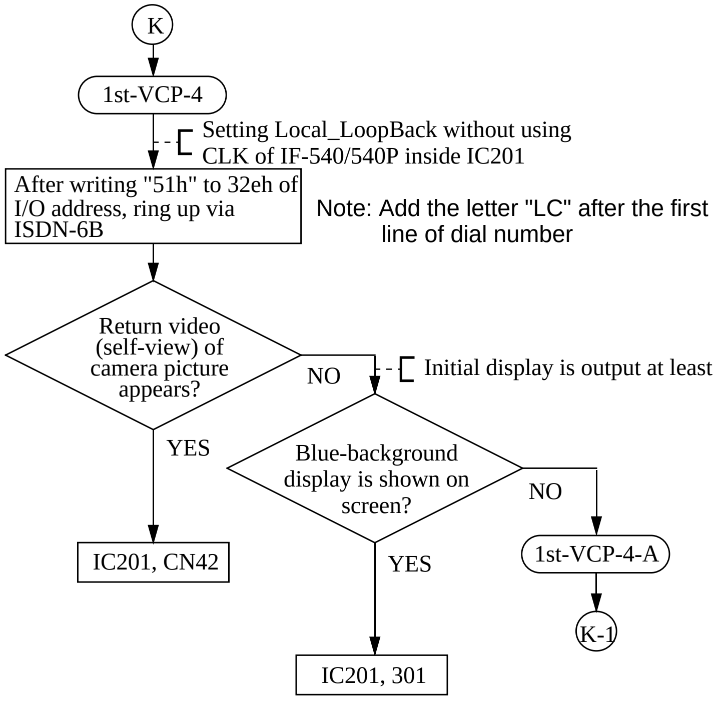

G-2
2nd-VCP-2-B
Check IC153 and pin-65 using an oscilloscope
Check PCLK2 and PCLKQ
PCLK input from 1st-VCP
This is 13.5 MHz clock respectively?
NO
IC133, 134, CN41
YES
Check IC153 pin-6, 7, 8, 9 using an oscilloscope
Check sync signal
Sync signal output from 1st-VCP
They are H. sync, V. sync, Fileld and blanking signals respectively?
NO
IC153
YES
IC171, CN41

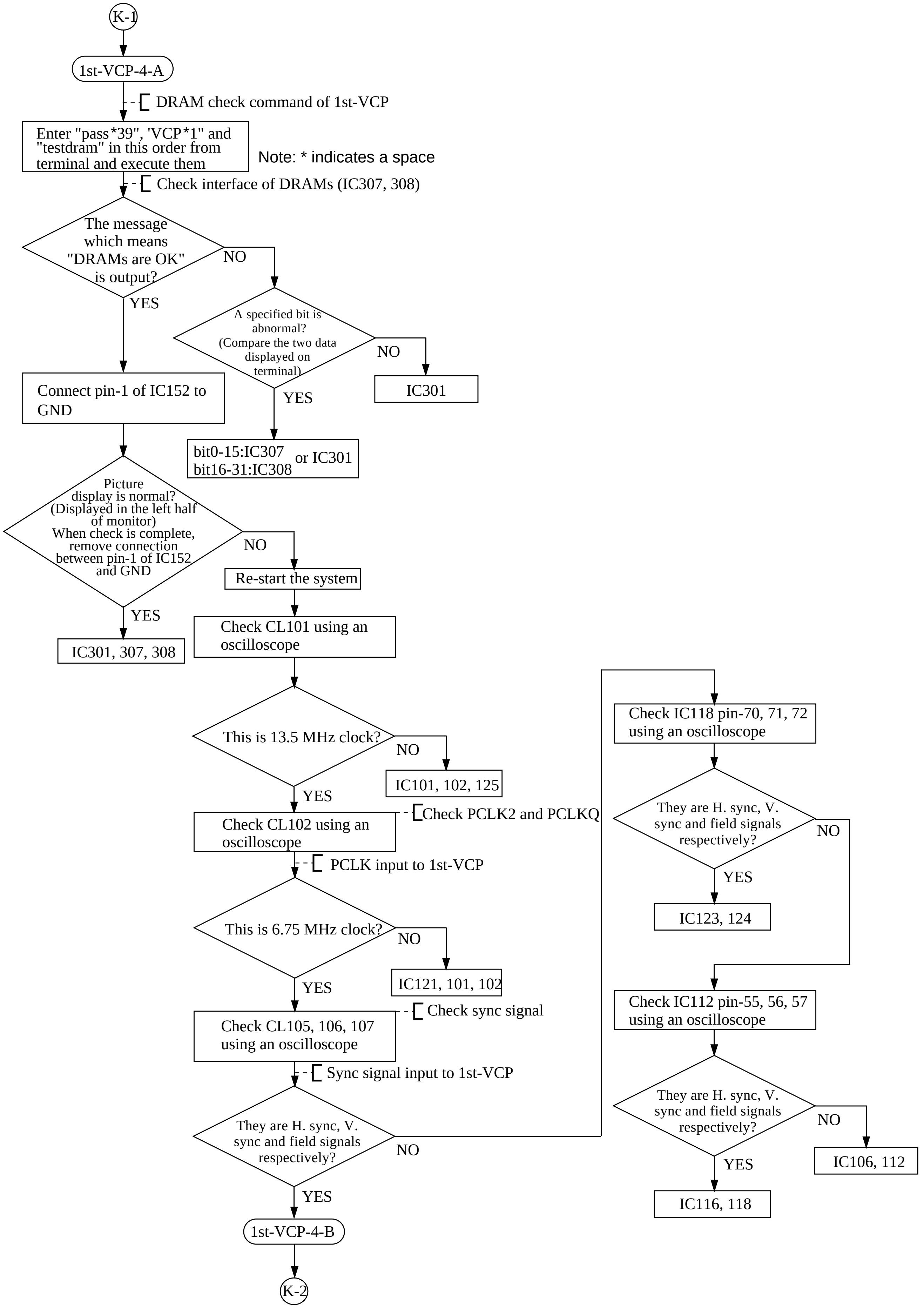

H
2nd-VCP-3
Ramp signal is output from 2nd-VCP
Enter "pass*39", 'VCP*2", "vcx_dwSONYTestSig*13" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal
Check SCN system signal of 2nd-VCP
Bit error is shown on display?
NO
Check SCN system signal of 2nd-VCP
YES
IC108, 401, CN42
Luminance signal is abnormal?
NO
IC174, 401, 407, 408 CN42
YES
IC173, 401, 407, 408 CN42

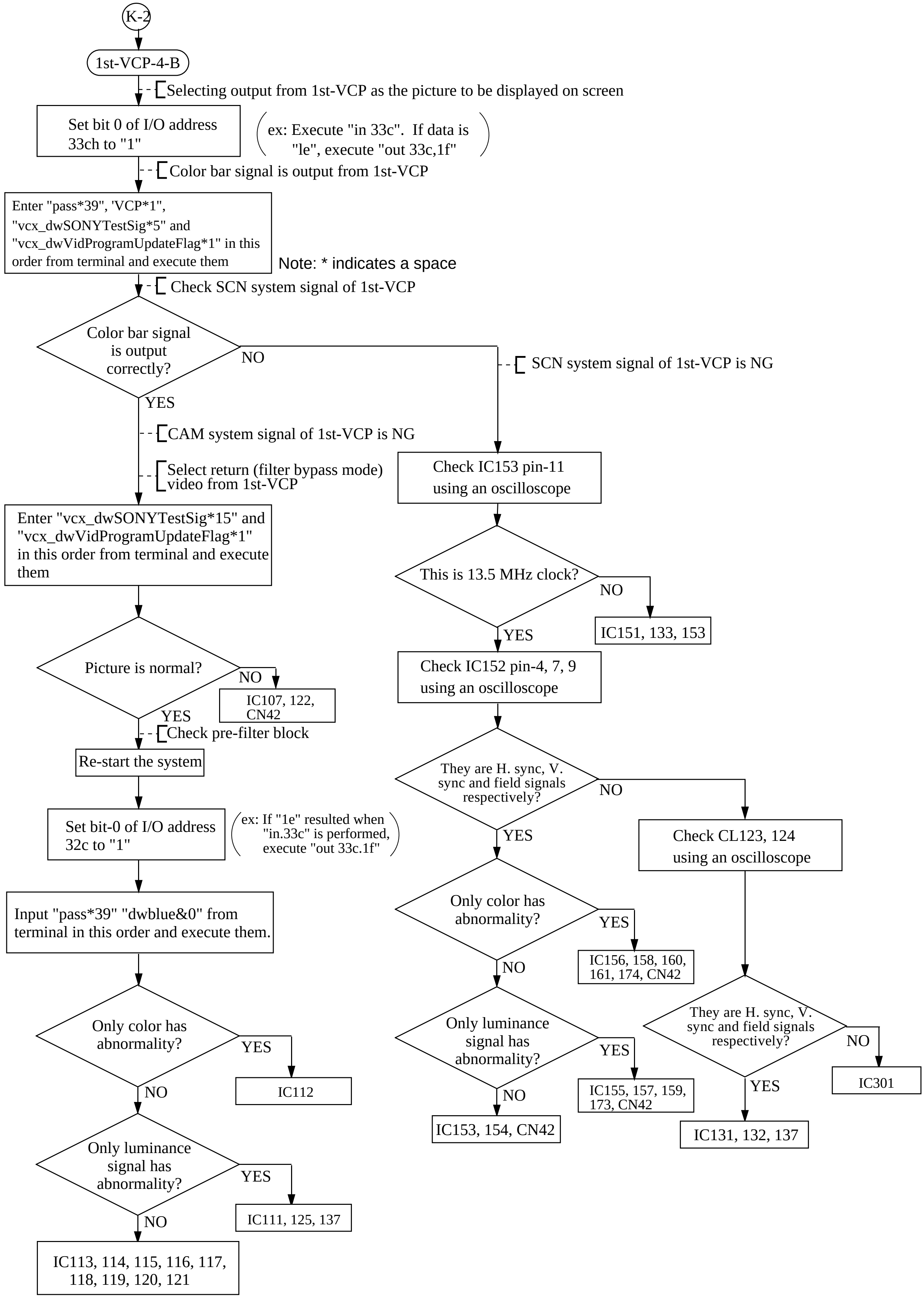
Note: * indicates a space.

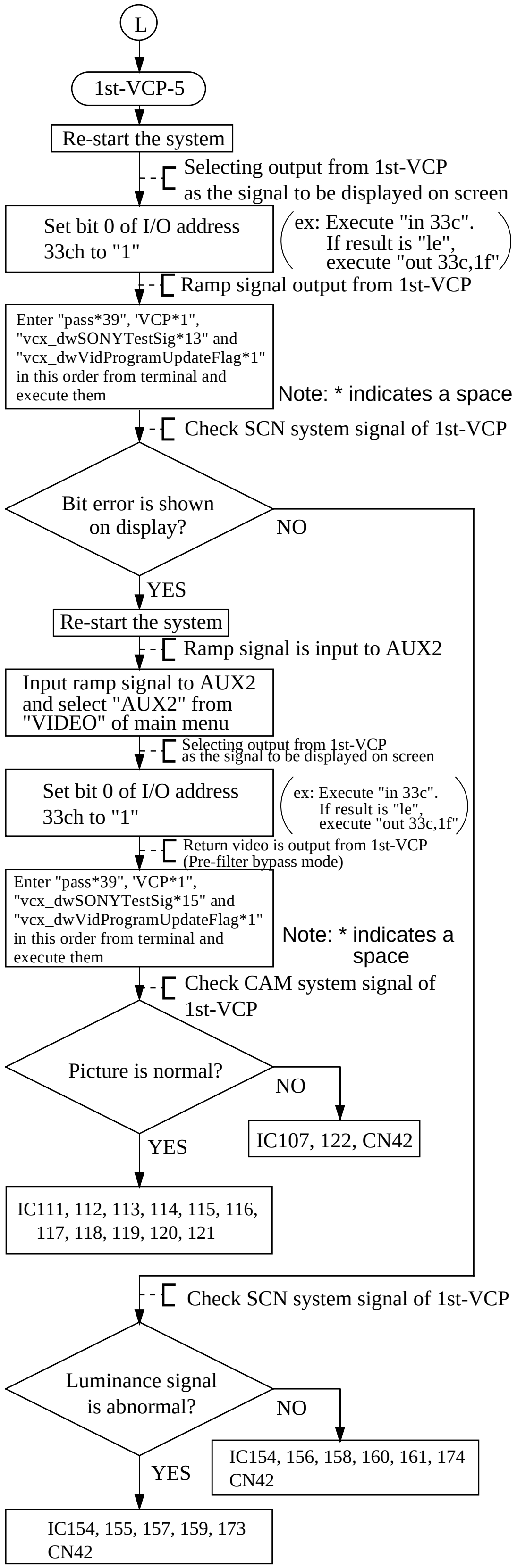

I
1st-VCP-2
Setting Local_LoopBack inside IC201
After writing "01h" to 32eh of I/O address, ring up via ISDN-6B
Note: Add the letter "LC" after the first line of dial number
Operation of 1st-VCP and NETW-VCP interface
Connection is completed correctly?
NO
YES
Setting Local_LoopBack without using CLK of IF-540/540P inside IC201
After writing "51h" to 32eh of I/O address, ring up via ISDN-6B.
Note: Add the letter "LC" after the first line of dial number
IC201,CN42
Operation of 1st-VCP and NETW-VCP interface
Connection is completed correctly?
NO
YES
Re-check downloading of 1st-VCP
While confirming the output message to terminal, restart the system
CN42,IC201
"NORMAL END" message of downloading 1st-VCP truly appears?
NO
YES
1st-VCP-1
C
Checking CLK of TDM interface
While checking CL311 and CL310 using an oscilloscope, ring up via ISDN-6B
Note: Add the letter "LC" after the first line of dial number
CL311 is CLK pulse of 3.072 MHz and CL310 is 8 kHz pulse?
NO
YES
CN42, 31-pin is CLK of 12.288 MHz?
NO
YES
X201,IC201
IC301,201
IC201

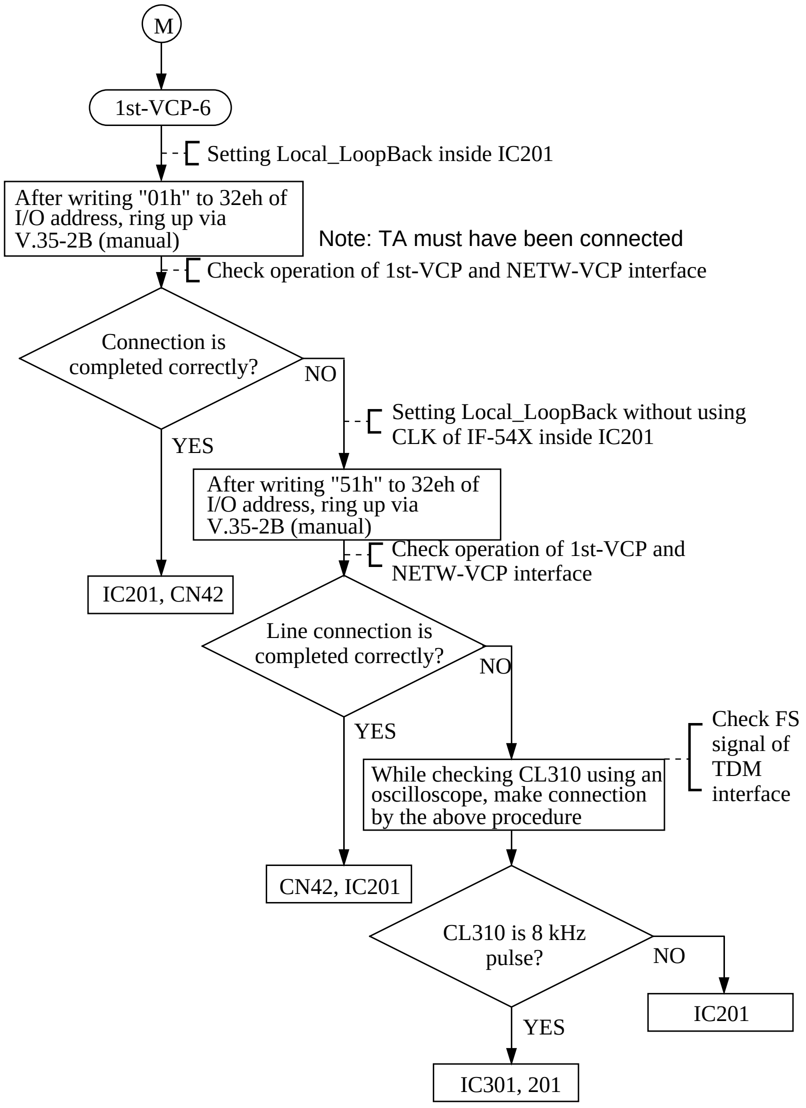

J
1st-VCP-3
Setting Local_LoopBack without using CLK of IF-540/540P inside IC201
After writing "51h" to 32eh of I/O address, ring up via ISDN-6B
Note: Add the letter "LC" after the first line of dial number
Operation of 1st-VCP and NETW-VCP interface
The echo back sound can be heard from the audio unit ?
NO
YES
While checking CL201 using an oscilloscope, ring up via ISDN-6B
Checking signal of NETW8K
Note: Add the letter "LC" after the first line of dial number
IC201,CN42
8 kHz pulse is output?
NO
YES
IC201
IC301,CN41, IC201

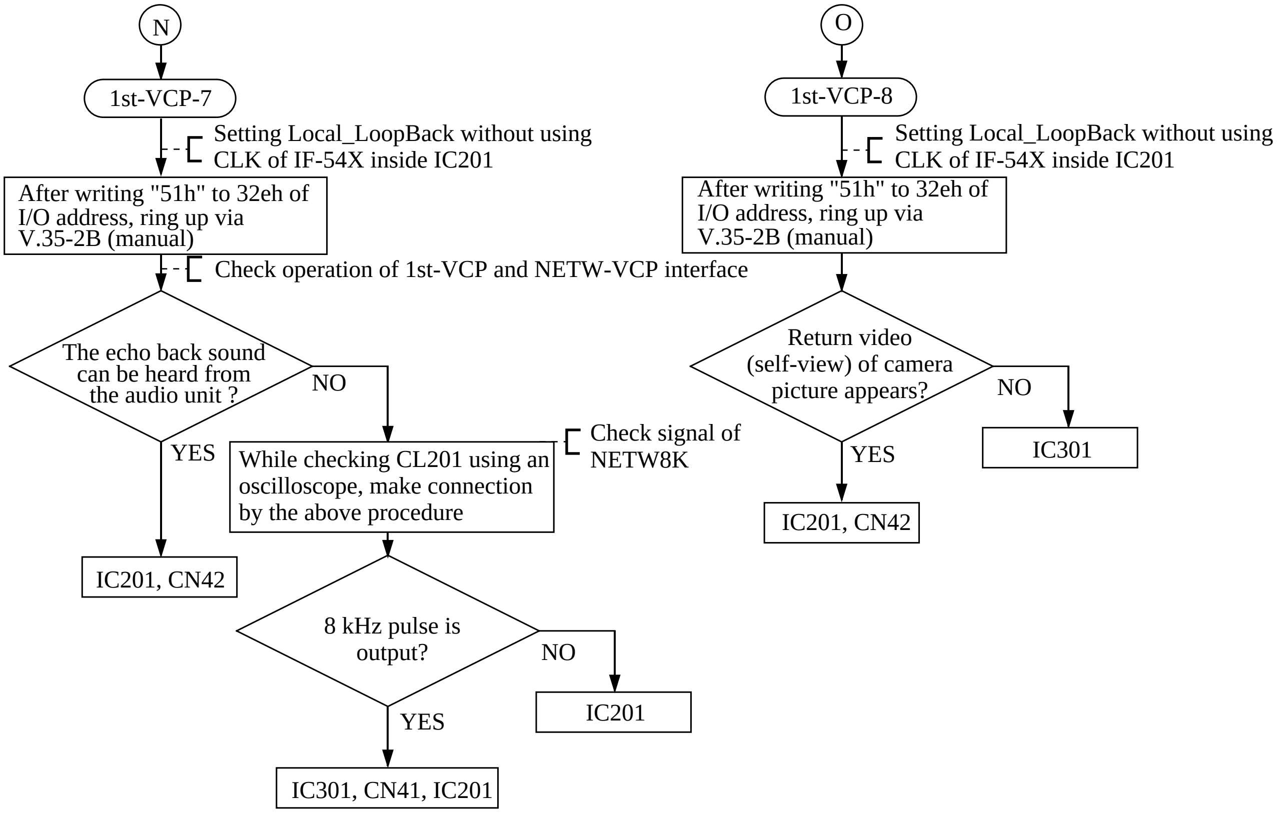

K
1st-VCP-4
Setting Local_LoopBack without using CLK of IF-540/540P inside IC201
After writing "51h" to 32eh of I/O address, ring up via ISDN-6B
Note: Add the letter "LC" after the first line of dial number
Return video (self-view) of camera picture appears?
NO
Initial display is output at least
YES
Blue-background display is shown on screen?
NO
YES
IC201, CN42
1st-VCP-4-A
K-1
IC201, 301

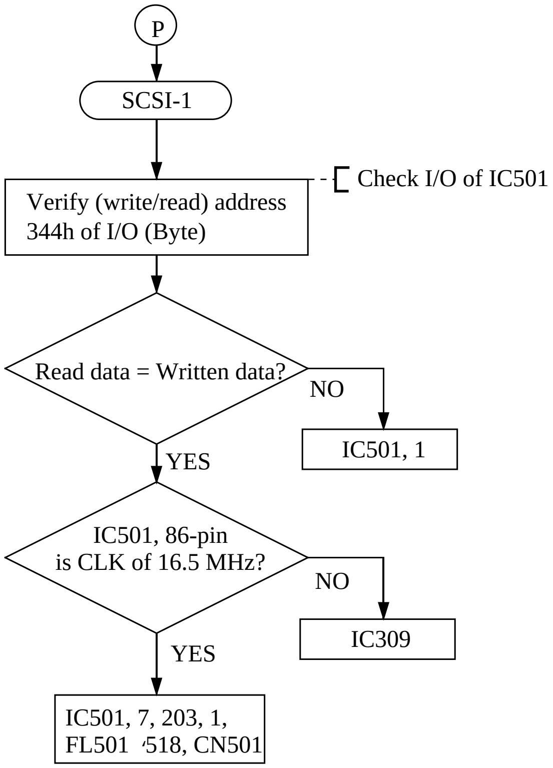

K-1
1st-VCP-4-A
DRAM check command of 1st-VCP
Enter "pass*39", 'VCP*1" and "testdram" in this order from terminal and execute them
Note: * indicates a space
Check interface of DRAMs (IC307, 308)
The message which means "DRAMs are OK" is output?
NO
YES
A specified bit is abnormal? (Compare the two data displayed on terminal)
NO
IC301
YES
bit0-15:IC307
bit16-31:IC308
or IC301
Connect pin-1 of IC152 to GND
Picture display is normal? (Displayed in the left half of monitor) When check is complete, remove connection between pin-1 of IC152 and GND
NO
YES
IC301, 307, 308
Re-start the system
Check CL101 using an oscilloscope
This is 13.5 MHz clock?
NO
IC101, 102, 125
YES
Check CL102 using an oscilloscope
Check PCLK2 and PCLKQ
PCLK input to 1st-VCP
This is 6.75 MHz clock?
NO
IC121, 101, 102
YES
Check CL105, 106, 107 using an oscilloscope
Check sync signal
Sync signal input to 1st-VCP
They are H. sync, V. sync and field signals respectively?
NO
YES
1st-VCP-4-B
K-2
Check IC118 pin-70, 71, 72 using an oscilloscope
They are H. sync, V. sync and field signals respectively?
NO
YES
IC123, 124
Check IC112 pin-55, 56, 57 using an oscilloscope
They are H. sync, V. sync and field signals respectively?
NO
IC106, 112
YES
IC116, 118

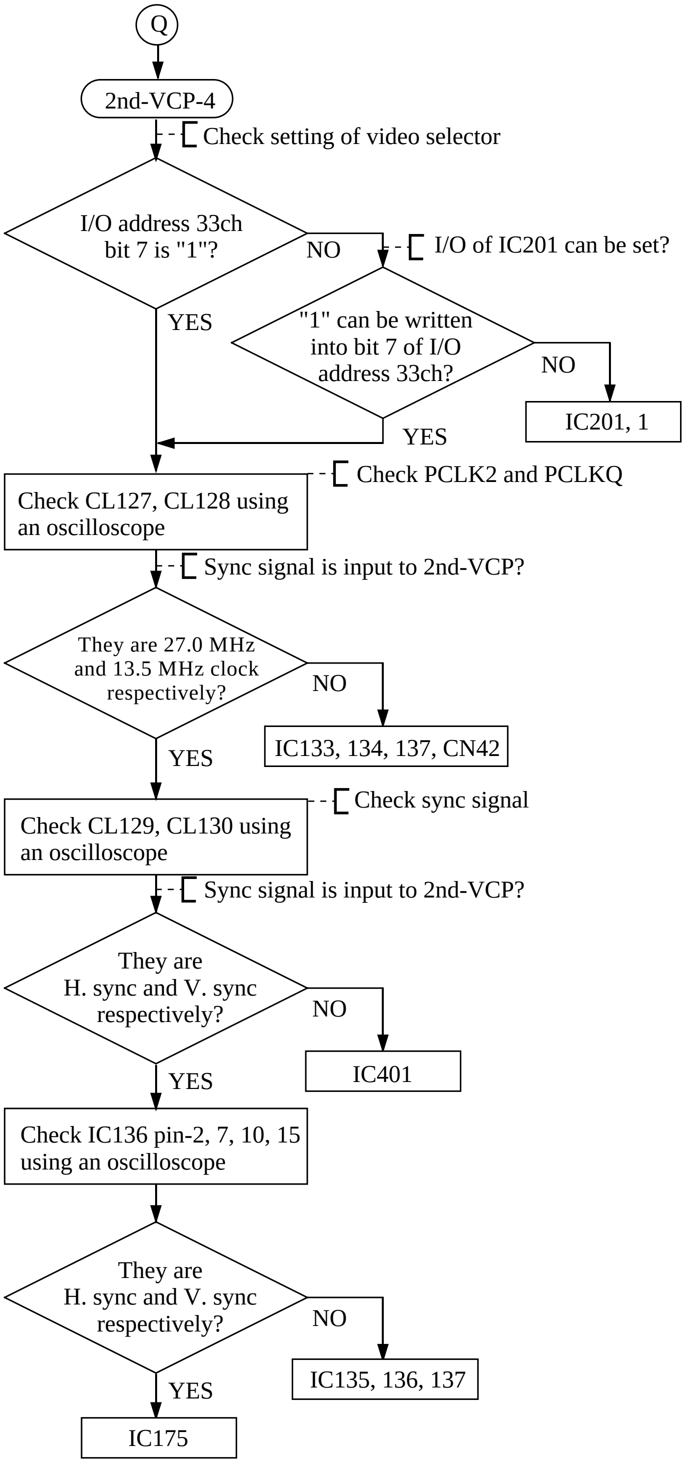

K-2
1st-VCP-4-B
Selecting output from 1st-VCP as the picture to be displayed on screen
Set bit 0 of I/O address 33ch to "1"
ex: Execute "in 33c". If data is "le", execute "out 33c,1f"
Color bar signal is output from 1st-VCP
Enter "pass*39", 'VCP*1", "vcx_dwSONYTestSig*5" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal and execute them
Note: * indicates a space
Check SCN system signal of 1st-VCP
Color bar signal is output correctly?
NO
SCN system signal of 1st-VCP is NG
YES
CAM system signal of 1st-VCP is NG
Select return (filter bypass mode) video from 1st-VCP
Check IC153 pin-11 using an oscilloscope
Enter "vcx_dwSONYTestSig*15" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal and execute them
This is 13.5 MHz clock?
NO
IC151, 133, 153
YES
Check IC152 pin-4, 7, 9 using an oscilloscope
Picture is normal?
NO
IC107, 122, CN42
YES
Check pre-filter block
Re-start the system
They are H. sync, V. sync and field signals respectively?
NO
YES
Check CL123, 124 using an oscilloscope
Set bit-0 of I/O address 32c to "1"
ex: If "1e" resulted when "in.33c" is performed, execute "out 33c.1f"
Input "pass*39" "dwblue&0" from terminal in this order and execute them.
Only color has abnormality?
YES
IC156, 158, 160, 161, 174, CN42
NO
Only luminance signal has abnormality?
YES
IC155, 157, 159, 173, CN42
NO
IC153, 154, CN42
They are H. sync, V. sync and field signals respectively?
NO
IC301
YES
IC131, 132, 137
Only color has abnormality?
YES
IC112
NO
Only luminance signal has abnormality?
YES
IC111, 125, 137
NO
IC113, 114, 115, 116, 117, 118, 119, 120, 121

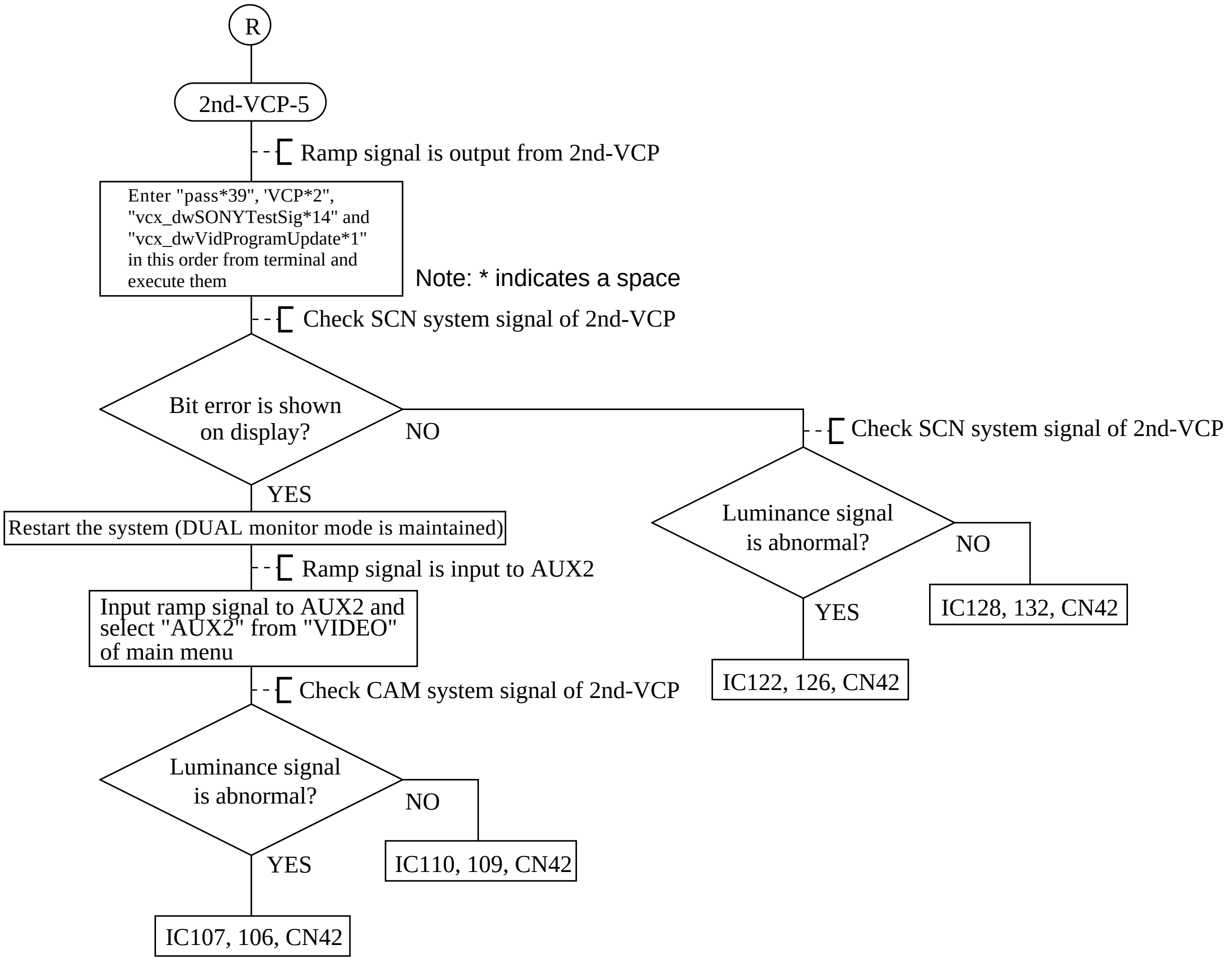

L
1st-VCP-5
Re-start the system
Selecting output from 1st-VCP as the signal to be displayed on screen
Set bit 0 of I/O address 33ch to "1"
ex: Execute "in 33c". If result is "le", execute "out 33c,1f"
Ramp signal output from 1st-VCP
Enter "pass*39", 'VCP*1", "vcx_dwSONYTestSig*13" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal and execute them
Note: * indicates a space
Check SCN system signal of 1st-VCP
Bit error is shown on display?
NO
YES
Re-start the system
Ramp signal is input to AUX2
Input ramp signal to AUX2 and select "AUX2" from "VIDEO" of main menu
Selecting output from 1st-VCP as the signal to be displayed on screen
Set bit 0 of I/O address 33ch to "1"
ex: Execute "in 33c". If result is "le", execute "out 33c,1f"
Return video is output from 1st-VCP (Pre-filter bypass mode)
Enter "pass*39", 'VCP*1", "vcx_dwSONYTestSig*15" and "vcx_dwVidProgramUpdateFlag*1" in this order from terminal and execute them
Note: * indicates a space
Check CAM system signal of 1st-VCP
Picture is normal?
NO
IC107, 122, CN42
YES
IC111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121
Check SCN system signal of 1st-VCP
Luminance signal is abnormal?
NO
IC154, 156, 158, 160, 161, 174 CN42
YES
IC154, 155, 157, 159, 173 CN42


M
1st-VCP-6
Setting Local_LoopBack inside IC201
After writing "01h" to 32eh of I/O address, ring up via V.35-2B (manual)
Note: TA must have been connected
Check operation of 1st-VCP and NETW-VCP interface
Connection is completed correctly?
NO
YES
IC201, CN42
Setting Local_LoopBack without using CLK of IF-54X inside IC201
After writing "51h" to 32eh of I/O address, ring up via V.35-2B (manual)
Check operation of 1st-VCP and NETW-VCP interface
Line connection is completed correctly?
NO
YES
CN42, IC201
Check FS signal of TDM interface
While checking CL310 using an oscilloscope, make connection by the above procedure
CL310 is 8 kHz pulse?
NO
IC201
YES
IC301, 201


N
1st-VCP-7
Setting Local_LoopBack without using CLK of IF-54X inside IC201
After writing "51h" to 32eh of I/O address, ring up via V.35-2B (manual)
Check operation of 1st-VCP and NETW-VCP interface
The echo back sound can be heard from the audio unit ?
NO
YES
IC201, CN42
While checking CL201 using an oscilloscope, make connection by the above procedure
Check signal of NETW8K
8 kHz pulse is output?
NO
IC201
YES
IC301, CN41, IC201
O
1st-VCP-8
Setting Local_LoopBack without using CLK of IF-54X inside IC201
After writing "51h" to 32eh of I/O address, ring up via V.35-2B (manual)
Return video (self-view) of camera picture appears?
NO
IC301
YES
IC201, CN42


P
SCSI-1
Verify (write/read) address 344h of I/O (Byte)
Check I/O of IC501
Read data = Written data?
NO
IC501, 1
YES
IC501, 86-pin is CLK of 16.5 MHz?
NO
IC309
YES
IC501, 7, 203, 1, FL501 ʼ518, CN501


Q
2nd-VCP-4
Check setting of video selector
I/O address 33ch bit 7 is "1"?
NO
I/O of IC201 can be set?
YES
"1" can be written into bit 7 of I/O address 33ch?
NO
IC201, 1
YES
Check PCLK2 and PCLKQ
Check CL127, CL128 using an oscilloscope
Sync signal is input to 2nd-VCP?
They are 27.0 MHz and 13.5 MHz clock respectively?
NO
IC133, 134, 137, CN42
YES
Check sync signal
Check CL129, CL130 using an oscilloscope
Sync signal is input to 2nd-VCP?
They are H. sync and V. sync respectively?
NO
IC401
YES
Check IC136 pin-2, 7, 10, 15 using an oscilloscope
They are H. sync and V. sync respectively?
NO
IC135, 136, 137
YES
IC175


R
2nd-VCP-5
Ramp signal is output from 2nd-VCP
Enter "pass*39", 'VCP*2", "vcx_dwSONYTestSig*14" and "vcx_dwVidProgramUpdate*1" in this order from terminal and execute them
Check SCN system signal of 2nd-VCP
Bit error is shown on display?
NO
YES
Restart the system (DUAL monitor mode is maintained)
Ramp signal is input to AUX2
Input ramp signal to AUX2 and select "AUX2" from "VIDEO" of main menu
Check CAM system signal of 2nd-VCP
Luminance signal is abnormal?
NO
YES
IC110, 109, CN42
IC107, 106, CN42
Check SCN system signal of 2nd-VCP
Luminance signal is abnormal?
NO
YES
IC128, 132, CN42
IC122, 126, CN42

Note: * indicates a space

### 3-7-6. A/D Converter Block (schematic diagram 4/9, 5/9)

The respective analog signals which are converted to the Y, U and V signals, are passed through the low-pass filters (FL3, FL4, FL5) for the purpose of the returned anti-aliasing, video amplifier and sent to CXD1176 (IC12, IC16, IC19) where they are A/D converted (8 bits).

Because the CXD1176 has the clamp function, a feedback clamp can be readily constituted by connecting a comparator (IC13) and analog switch (IC14) externally so that the blanking level is clamped to the specified value. The clamp level is 10 H for the Y signal and 80 H for the U and V signals in terms of digital value.

The sampling frequency is 13.5 MHz for Y signal and 6.75 MHz for U and V signals. The U and V signals are multiplexed (IC53, IC54, IC55, IC56) in terms of time division after A/D conversion, so that they are multiplexed into a 13.5 MHz, 8-bit signal.

Because the sampling frequency is different in Y signal, and U/V signals, the low-pass filters before A/D conversion are different too. As the result, a delay is resulted between the Y signal and U/V signals. The delay is minimized by passing through the digitized Y signal only through the shift register (IC51). The respective signals are passed through CN2 and output to the VPR-019 board.

The digital values after A/D conversion conform to the ITU-R601 specification. The reference digital values (in hexadecimal value) are shown below when the reference color bar signal is input.

CLOLOR BAR DIGITAL VALUE

| | 75% COLOR BAR WITH SETUP | | | 75% COLOR BAR WITHOUT SETUP | | | 100% COLOR BAR WITHOUT SETUP | | |
|---|---|---|---|---|---|---|---|---|---|
| | Y | B-Y | R-Y | Y | B-Y | R-Y | Y | B-Y | R-Y |
| WHITE | B8 | 80 | 80 | B4 | 80 | 80 | EB | 80 | 80 |
| YELLOW | A7 | 32 | 8D | A1 | 2C | 8E | D2 | 10 | 92 |
| CYAN | 8B | 9A | 32 | 83 | 9C | 2C | A9 | A6 | 10 |
| GREEN | 7A | 4D | 3F | 70 | 48 | 3A | 90 | 36 | 22 |
| MAGENTA | 5F | B3 | C1 | 54 | B8 | C6 | 6B | CA | DE |
| RED | 4E | 66 | CE | 41 | 64 | D4 | 52 | 5A | F0 |
| BLUE | 32 | CE | 73 | 23 | D4 | 72 | 29 | F0 | 6E |
| BLACK | 20 | 80 | 80 | 10 | 80 | 80 | 10 | 80 | 80 |

### 3-7-7. Sync System (Output Side) (schematic diagram 6/9)

The sync system of the output side has two modes.

One is the A/D-D/A bypass mode in which the input signal bypasses the circuit in the board. (Diagnostics use only) In this case, the sync and clock signals which are used by the input side sync system block, are used.

The other mode is the normal (normal operation) mode. Firstly the clock (27 MHz) is generated (X6) on free running in this board, and is input to the digital video encoder CXD1913Q (IC18) where 27 MHz is divided by two and the 13.5 MHz clock is output. Both of these clock signals are sent to the VPR-019 board and are used as the reference of all sync systems in the output side. The VPR-019 board generates the horizontal sync signal, vertical sync signal and field identification signal using this clock as the reference. These generated signal are returned to the DAD-017/017P board where the sync timing signal for the encoder IC CXD1913Q is generated (IC78, IC79, IC80, IC81) using the returned signals as the reference, and the video signal which is synchronized with the sync signal generated by the VPR-019 board, is output.

The output side has the IC μPD65641-188 (IC83) which generates menu display data. This IC is locked to the input side sync system in the A/D-D/A bypass mode, and is locked to the output side sync system in the normal operation mode, in synchronous with the sync system of the parent display.

### 3-7-8. Menu Signal Generator Block (schematic diagram 8/9)

All of the menu display signals are generated by μPD65641-188 (IC83) and its associated external memory CXK581000/LC361000 (IC84, IC85) which are controlled by the CPU-202 board via bus line. The output signal from these ICs is added to the output video signal from the DAD-017/017P board, and is output to the DAD-018/018P/DAD-33/33P board (PCS-G500/G500P/PCS-G510/G510P).

The menu signal output from μPD65641-188 are the 4-bit data for Y, U and V which are output in synchronous with the 13.5 MHz clock. Among them, the U and V signals are reduced to 1/2 by IC86 so that the signals conform with the other video signal formats, and multiplexed in time division into a single 4-bit signal by IC87 and IC88. The Y signal is shifted by IC89 in order to match the delay. The respective 4-bit signals are added into the upper 4 bits of the 8-bit signal at the selectors (IC64 to IC71) of the video signal. The YS signal which generates the timing for multiplexing the menu signal is shifted by IC88 to match the delay with the Y and U/V signals, and is output to IC103 which controls the output signal selectors (IC64 to IC71).

### 3-7-9. Encoder and D/A Converter Block (schematic diagram 6/9)

Video encoding and D/A conversion are performed by CXD1913Q (IC18).

The four signals of the input signal from the VPR-019 board, the input signal from A/D converter, the blanking black level and menu signal, are input to the selectors (IC64 to IC71) as the 8-bit digital video signal of Y and U/V data. The signal which is selected at the selectors (IC64 to IC71) and multiplexed, is input to CXD1913Q (IC18). This selector is controlled by IC103 (Programmable Logic Device) to which the I/O (IC102) output, the menu YS signal and blanking signal are input and decoded. 27 MHz signal is input as the clock signal for the video encoder IC. The horizontal, vertical sync signals and the field identification signal which are generated by the VPR-019 board, are input as the sync signal so that encoding is performed.

Parameter setting such as output signal format and field polarity and others are performed by CXP5068H-242Q (IC17) using the serial interface.

The digitally encoded signal is converted to analog Y and C signals by the D/A converter, and output.

### 3-7-10. Video Signal Output Block (schematic diagram 7/9)

The D/A converted Y and C signals are passed through the low-pass filters for anti-aliasing. Both low-pass filters have the same characteristics.

The respective signals are output to external devices as the MONITOR OUT, through video amplifier, 75 Ω driver, etc. At the same time, both signals are mixed and the composite signal is generated. The composite signal is output to external devices as the AUX OUT, through video amplifier, 75 Ω driver, etc.

### 3-7-11. Decoder and Encoder Control Block (schematic diagram 6/9)

The video decoder (MC44011) and the video encoder (CXD1913Q) are controlled (setting the internal parameters) by the 4-bit microprocessor CXP5068H-242Q (IC17). Among the terminals of this IC, the ports which are used by the internal software are described as follows.

| NAME | PIN | I/O | FUNCTION |
|---|---|---|---|
| PA0 | 60 | I | Selection of encoder IC H: CXD1910Q, L: CXD1913Q |
| PB0 | 64 | I | Setting of V sync delay of decoder IC in NTSC H: 68us, L: 36us |
| PB1 | 1 | I | Setting of V sync delay of decoder IC in PAL H: 36us, L: 68us |
| PB2 | 2 | I | Setting of blanking period of encoder IC<br>H: All input data is passed through.<br>L: The input data is ignored and black level is generated.<br>Alternately, amplitude exceeding Y: 10H to EBH, UV: 10H to F0H are limited even outside the blanking period |
| PB3 | 3 | I | Setting of chroma phase adjustment mode inside the decoder IC<br>H: Phase is adjusted by HUE of the decoder block.<br>L: Phase is adjusted by the subcarrier balance of the chroma PLL block. |
| PC0<br>PC1<br>PC2<br>PC3 | 12<br>13<br>14<br>15 | I<br>I<br>I<br>I | Chroma phase adjustment input for decoder PC0: LSB, PC3: MSB |
| PD0 | 16 | O | Encoder serial interface: data output |
| PD1 | 17 | O | Encoder serial interface: data clock output |
| PD2 | 18 | O | Encoder serial interface: chip-select output |
| PE0 | 4 | I | V SYNC INPUT ACTIVE LOW |
| PE1 | 5 | I | H: NTSC, L: PAL |
| PE2 | 6 | I | VCO inside the decoder IC oscillation ON/OFF, H: ON, L: OFF |
| PE3 | 7 | I | D/A converter output of encoder IC ON/OFF, H: ON, L: OFF (BLANKING) |

### 3-7-12. CPU Interface (schematic diagram 9/9)

The CPU interface accesses the menu display IC μPD65641GD-188 (IC83) and the parallel I/O IC μPD71055 (IC102). Address bus is input through the buffers (IC91, IC92, IC93). The data bus is input and output using latches (IC95, IC96, IC97 and IC98). The bit width of data is 16-bit for the menu display IC, and 8-bit for the parallel I/O IC. Input/output control of the data latch and address decode of the menu IC are performed by IC99 (Programmable Logic Device).

### 3-7-13. Parallel I/O (schematic diagram 9/9)

The CPU board reads and sets the status of the DAD-018/018P, DAD-33/33P boards through the CPU interface using the parallel I/O IC µPD71055 (IC102). The items which can be set and read, are shown below.

- Input switching of either DAD-017/017P board or DAD-018/018P boards.
- Setting the mode in which the output signal of the DAD-017/017P board is returned to input for bypass.
- Setting which of the DAD-017/017P or DAD-018/018P/DAD-33/33P outputs is used for menu display.
- Blanking the output signal of the DAD-017/017P, DAD-018/018P and DAD-33/33P boards.
- Setting the A/D-D/A bypass mode of the DAD-017/017P, DAD-018/018P and DAD-33/33P boards.
- Setting which of the Y/C or RGB signal is used for input signal to the DAD-018/018P board.
- Reading if any signal is input to the DAD-017/017P board or not.
- Reading the VGA input mode of the DAD-018/018P/DAD-33/33P boards.
- Reading if installation is performed or not in the DAD-018/018P/DAD-33/33P boards.

Various setups are normally performed by this IC. However, if bit 8 of the DIP switch (S2) is set to on, the various setups can be performed by the DIP switches (S1, S2).
Actual I/O address, description of each bit and contents of DIP switches settings are shown as follows.
Name of each bit of the I/O corresponds to the name of each bit which controls the selector shown in Fig. 3-7-1.

DAD-017/017P Board I/O Map Table

Address: 2A0H (DAD017/017P CNT)
DAD017/017P Control
IC102 µPD71055 port 0

| Bit | R/W | Signal | Description |
|---|---|---|---|
| 0 | R/W | IM SEL1 | (SEL2, EL1): Select Main Video (DAD-017/017P) Source<br>(0, 0): CAMUNIT; (0, 1): OBJECT; (1, 0): AUX1; (1, 1); AUX2 |
| 1 | R/W | IM SEL2 | |
| 2 | R/W | IG SEL1 | (SEL2, EL1): Select Graph. Video (DAD-018/018P) Source<br>(0, 0): CAM UNIT; (0, 1): OBJECT; (1, 0): AUX1; (1, 1); AUX2 |
| 3 | R/W | IG SEL2 | |
| 4 | R/W | SET OMBYP | 0: Bypass Main Video OUT to Main Video IN; 1: Normal |
| 5 | R/W | YS SEL | 0: YS for Graph. Video OUT; 1: YS for Main Video OUT |
| 6 | R/W | SET MBLK | 0: Main Video OUT Blanking; 1: Normal |
| 7 | R/W | SET IMBYP | 0: Set AD to DA Bypass (DAD-017/017P); 1: Normal |

Address: 2A2H (Menu Reset & DAD018/018P/DAD33/33P CNT)
Menu Reset & DAD018/018P/DAD33/33P Control
IC102 µPD71055 port 1

| Bit | R/W | Signal | Description |
|---|---|---|---|
| 0 | R/W | MO RESET | Reset Menu Gen. IC 1: Reset |
| 1 | R/W | Not Use | |
| 2 | R/W | Not Use | |
| 3 | R/W | Not Use | |
| 4 | R/W | I SEL | Select Graph. (DAD-018/018P/DAD-33/33P) Source<br>0 : RGB IN, 1 : VIDEO IN (DAD-018/018P), NO INPUT (DAD-33/33P) |
| 5 | R/W | Not Use | |
| 6 | R/W | SET IGBYP | 0: Set AD to DA Bypass (DAD-018/018P/DAD-33/33P); 1: Normal |
| 7 | R/W | SET GBLK | 0: Graph. (DAD-018/018P/DAD-33/33P) OUT Blanking; 1: Normal |

Address: 2A4H (DAD017/017P & 018/018P, 33/33P STS)
DAD017/017P Status
IC102 µPD71055 port 2

| Bit | R/W | Signal | Description |
|---|---|---|---|
| 0 | R | NTSC/PAL | 0: PAL Mode; 1: NTSC Mode |
| 1 | R | MSYNC LOST | 0: NO Main Video (DAD-017/017P) Input |
| 2 | R | VBL | 0: V Blanking (Menu) |
| 3 | R | DAD Ver. | 0: Ver.1; 1: Ver.2 |
| 4 | R | G SYNC LOST | 0: NO INPUT (DAD-018/018P/DAD-33/33P) |
| 5 | R | VGA TYP | 0: VGA IN 480 Line; 1: etc. (DAD-018/018P) 0: VGA ; 1: SVGA (DAD-33/33P) |
| 6 | R | SENSE018 | 0: DAD-018/018P/DAD-33/33P Exist; 1: DAD-018/018P/DAD-33/33P not Exist |
| 7 | R | Not Use | |

Address: 2A6H (PIO CNT)
PIO Mode Control
IC102 µPD71055 Command REG

Set 1000 100lb (89H)

DAD-017/017P DIP SW. SET UP
S1

| NO. | FUNCTION | MODE ( L = ON, H = OFF ) | | | |
|---|---|---|---|---|---|
| 1 | DAD-017/017P | L: "CAMERA | H: "GRAPH- | L: "AUX1" | H: "AUX2" |
| 2 | INPUT VIDEO SELECT | L: UNIT" | L: ICS" | H: | H: |
| 3 | DAD-018/018P | L: "CAMERA | H: "GRAPH- | L: "AUX1" | H: "AUX2" |
| 4 | INPUT VIDEO SELECT | L: "UNIT” | L: "ICS" | H: | H: |
| 5 | DAD-017/017P OUT TO IN BYP | L: ON | | H: OFF(NORMAL) | |
| 6 | MENU DISPLAY SELECT | L: DAD-018/018P/DAD-33/33P OUTPUT | | H: DAD-017/017P OUTPUT | |
| 7 | DAD-017/017P OUTPUT BLANK | L: BLANKING | | H: NORMAL | |
| 8 | DAD-017/017P AD-DA BYPASS | L: BYPASS MODE | | H: NORMAL MODE | |

S2

| NO. | FUNCTION | MODE (L = ON, H = OFF) | |
|---|---|---|---|
| 1 | NTSC/PAL | L: NTSC | H: PAL |
| 2 | DAD-018/018P, DAD-33 IN VIDEO/RGB | L: RGB INPUT | H: VIDEO INPUT (DAD-018/018P)<br>NO INPUT (DAD-33/33P) |
| 3 | ———— | SET H | |
| 4 | DAD-018/018P/DAD-33/33P AD-DA BYPASS | L: BYPASS MODE | H: NORMAL MODE |
| 5 | DAD-018/018P/DAD-33/33P OUTPUT BLANK | L: BLANKING | H: NORMAL |
| 6 | ———— | SET H | |
| 7 | ———— | SET H | |
| 8 | MODE SET DEVICE | L: DIP SW(S1, S2) | H: uPD71055(IC102) |

Initial setting
S2-1: ON (For NTSC), OFF (For PAL)
S1, S2-2~8: OFF

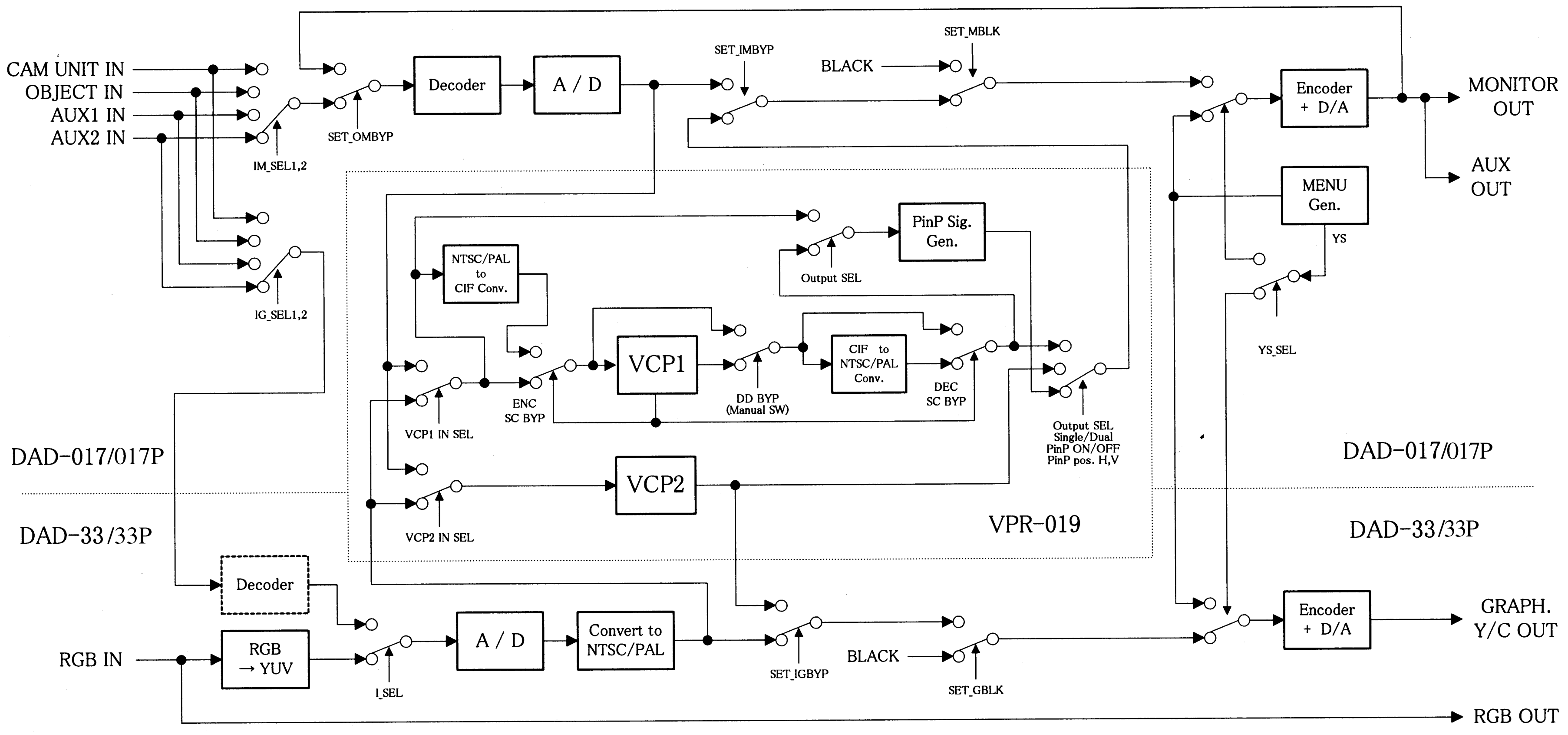

CAM UNIT IN
OBJECT IN
AUX1 IN
AUX2 IN
IM_SEL1,2
IG_SEL1,2
SET_OMBYP
Decoder
A / D
SET_IMBYP
BLACK
SET_MBLK
Encoder + D/A
MONITOR OUT
AUX OUT
MENU Gen.
YS
YS_SEL
NTSC/PAL to CIF Conv.
PinP Sig. Gen.
Output SEL
VCP1
ENC SC BYP
VCP1 IN SEL
DD BYP (Manual SW)
CIF to NTSC/PAL Conv.
DEC SC BYP
Output SEL Single/Dual PinP ON/OFF PinP pos. H,V
VCP2
VCP2 IN SEL
VPR-019
DAD-017/017P
DAD-33/33P
DAD-017/017P
DAD-33/33P
Decoder
RGB IN
RGB → YUV
I_SEL
A / D
Convert to NTSC/PAL
SET_IGBYP
BLACK
SET_GBLK
Encoder + D/A
GRAPH. Y/C OUT
RGB OUT

Fig. 3-7-1 PCS-P500/P500P VIDEO SIGNAL FLOW (with control bit)

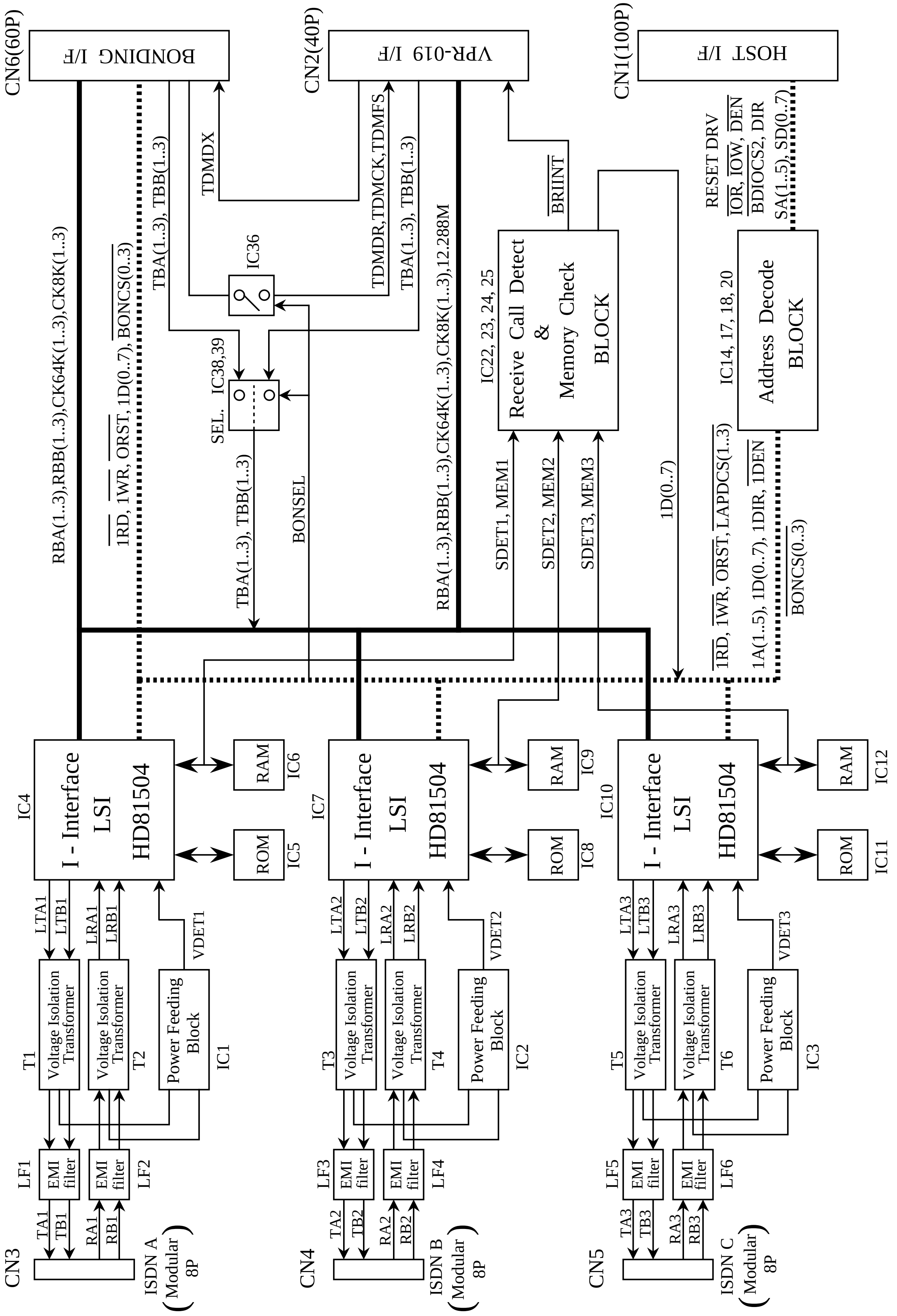

CN6(60P)
BONDING I/F
CN2(40P)
VPR-019 I/F
CN1(100P)
HOST I/F
RBA(1..3),RBB(1..3),CK64K(1..3),CK8K(1..3)
1RD, 1WR, ORST, 1D(0..7), BONCS(0..3)
TBA(1..3), TBB(1..3)
TDMDX
IC36
TDMDR,TDMCK,TDMFS
TBA(1..3), TBB(1..3)
SEL.
IC38,39
TBA(1..3), TBB(1..3)
BONSEL
RBA(1..3),RBB(1..3),CK64K(1..3),CK8K(1..3),12.288M
IC22, 23, 24, 25
Receive Call Detect
&
Memory Check
BLOCK
BRIINT
SDET1, MEM1
SDET2, MEM2
SDET3, MEM3
1D(0..7)
RESET DRV
IOR, IOW, DEN
BDIOCS2, DIR
SA(1..5), SD(0..7)
IC14, 17, 18, 20
Address Decode
BLOCK
1RD, 1WR, ORST, LAPDCS(1..3)
1A(1..5), 1D(0..7), 1DIR, 1DEN
BONCS(0..3)
IC4
I - Interface
LSI
HD81504
RAM
IC6
ROM
IC5
IC7
I - Interface
LSI
HD81504
RAM
IC9
ROM
IC8
IC10
I - Interface
LSI
HD81504
RAM
IC12
ROM
IC11
LTA1
LTB1
LRA1
LRB1
VDET1
T1
Voltage Isolation Transformer
Voltage Isolation Transformer
T2
Power Feeding Block
IC1
LF1
EMI filter
EMI filter
LF2
TA1
TB1
RA1
RB1
CN3
ISDN A (Modular 8P)
LTA2
LTB2
LRA2
LRB2
VDET2
T3
Voltage Isolation Transformer
Voltage Isolation Transformer
T4
Power Feeding Block
IC2
LF3
EMI filter
EMI filter
LF4
TA2
TB2
RA2
RB2
CN4
ISDN B (Modular 8P)
LTA3
LTB3
LRA3
LRB3
VDET3
T5
Voltage Isolation Transformer
Voltage Isolation Transformer
T6
Power Feeding Block
IC3
LF5
EMI filter
EMI filter
LF6
TA3
TB3
RA3
RB3
CN5
ISDN C (Modular 8P)

Fig. 3-11-1  IF-540/540P Board Block Diagram

## 3-12. IF-540/540P BOARD TROUBLESHOOTING

When any error occurs in the IF-540/540P board, use the flowchart as shown to locate the cause of the trouble.

**[Equipment required]**

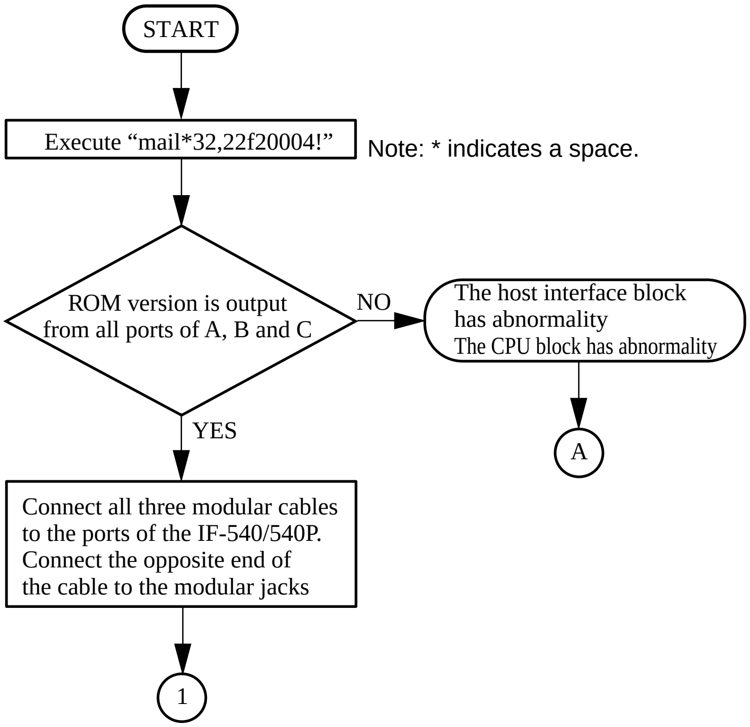
- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Oscilloscope
- Video monitor
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

**[Service tools]**

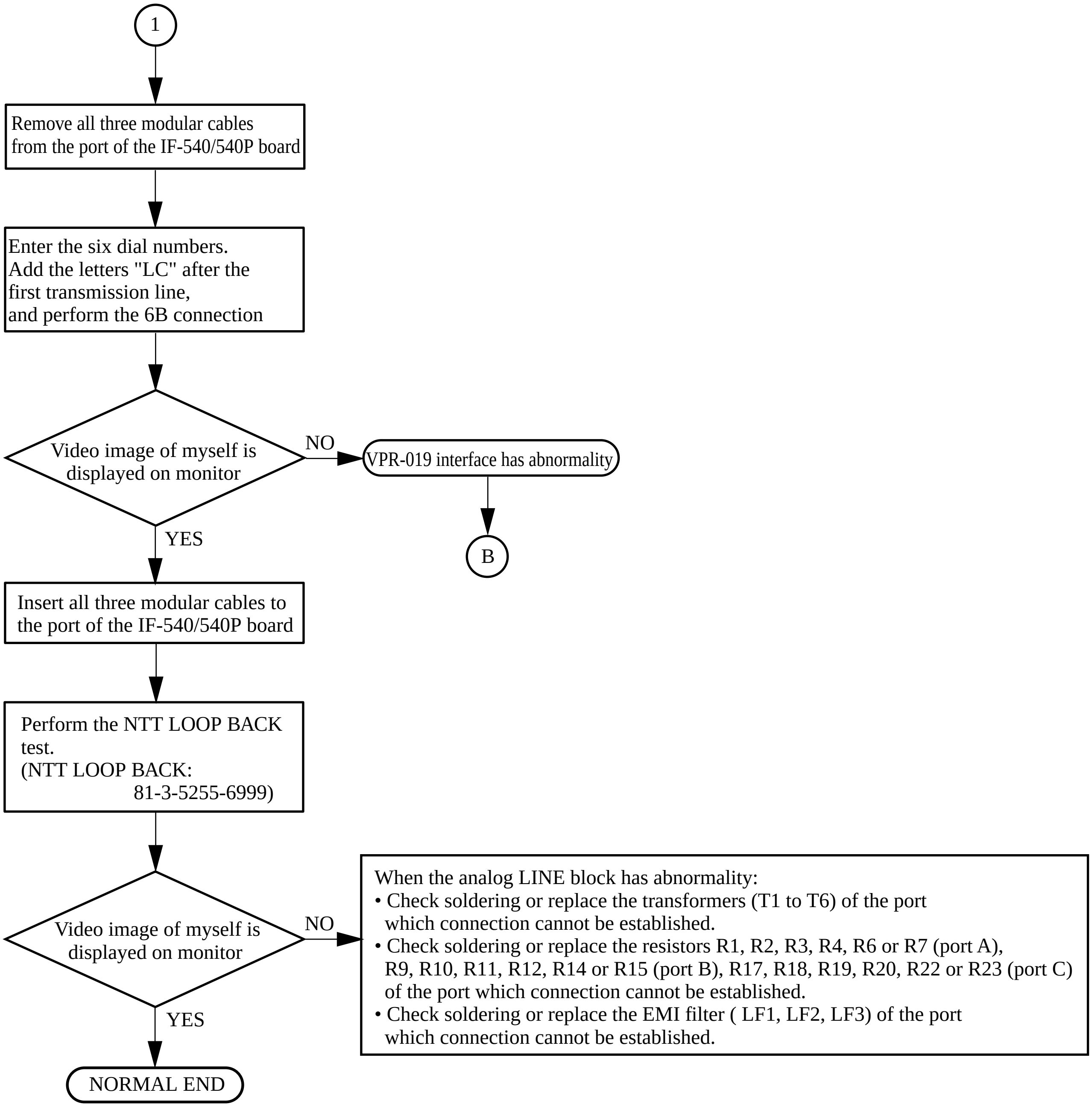
- VH-951 extension board (Sony part number: J-6389-951-A)
- RS-232C terminal (PC/AT compatible with communication software “CCT”)
- RS-232C cross cable
- S cable
- ISDN (8P) modular cable

**[Preparation]**

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the IF-540/540P board.
3) Insert the IF-540/540P board to the extension board.
4) Connect the video monitor to the VIDEO OUT MONITOR terminal of the rollabout processor (PCS-P500/P500P).
5) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
6) Remove all ISDN (8 pins) modular cables. The modular cables to use must be assured of good performance.
7) Start up the communication software “CCT” which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
8) Turn on the main power from the remote commander (PCS-R500).


START
Execute “mail*32,22f20004!”
ROM version is output from all ports of A, B and C
NO
The host interface block has abnormality
The CPU block has abnormality
A
YES
Connect all three modular cables to the ports of the IF-540/540P. Connect the opposite end of the cable to the modular jacks
1

Note: * indicates a space.



Remove all three modular cables from the port of the IF-540/540P board

Enter the six dial numbers.
Add the letters "LC" after the first transmission line,
and perform the 6B connection

Video image of myself is displayed on monitor

VPR-019 interface has abnormality

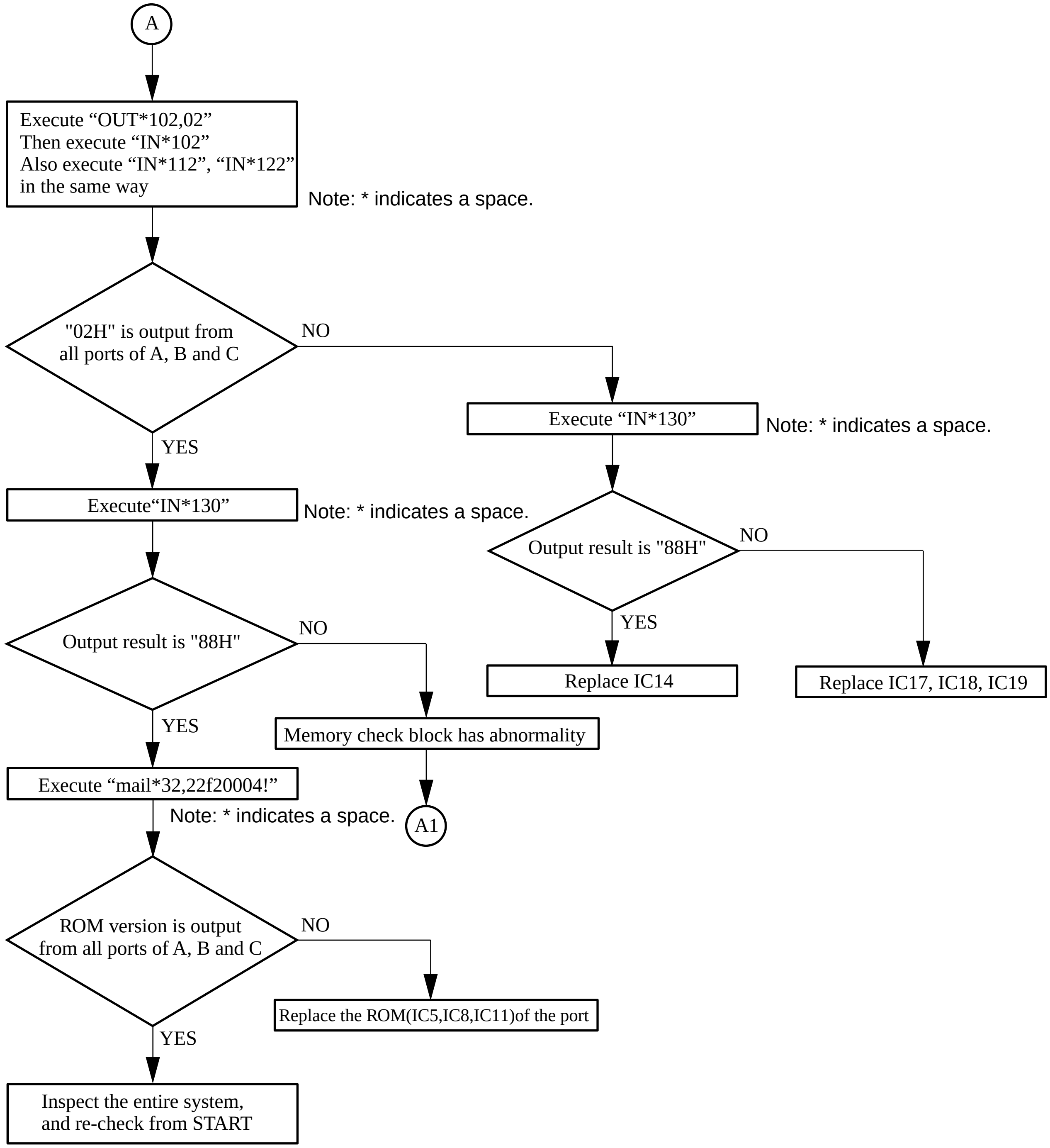
Insert all three modular cables to the port of the IF-540/540P board

Perform the NTT LOOP BACK test.
(NTT LOOP BACK: 81-3-5255-6999)

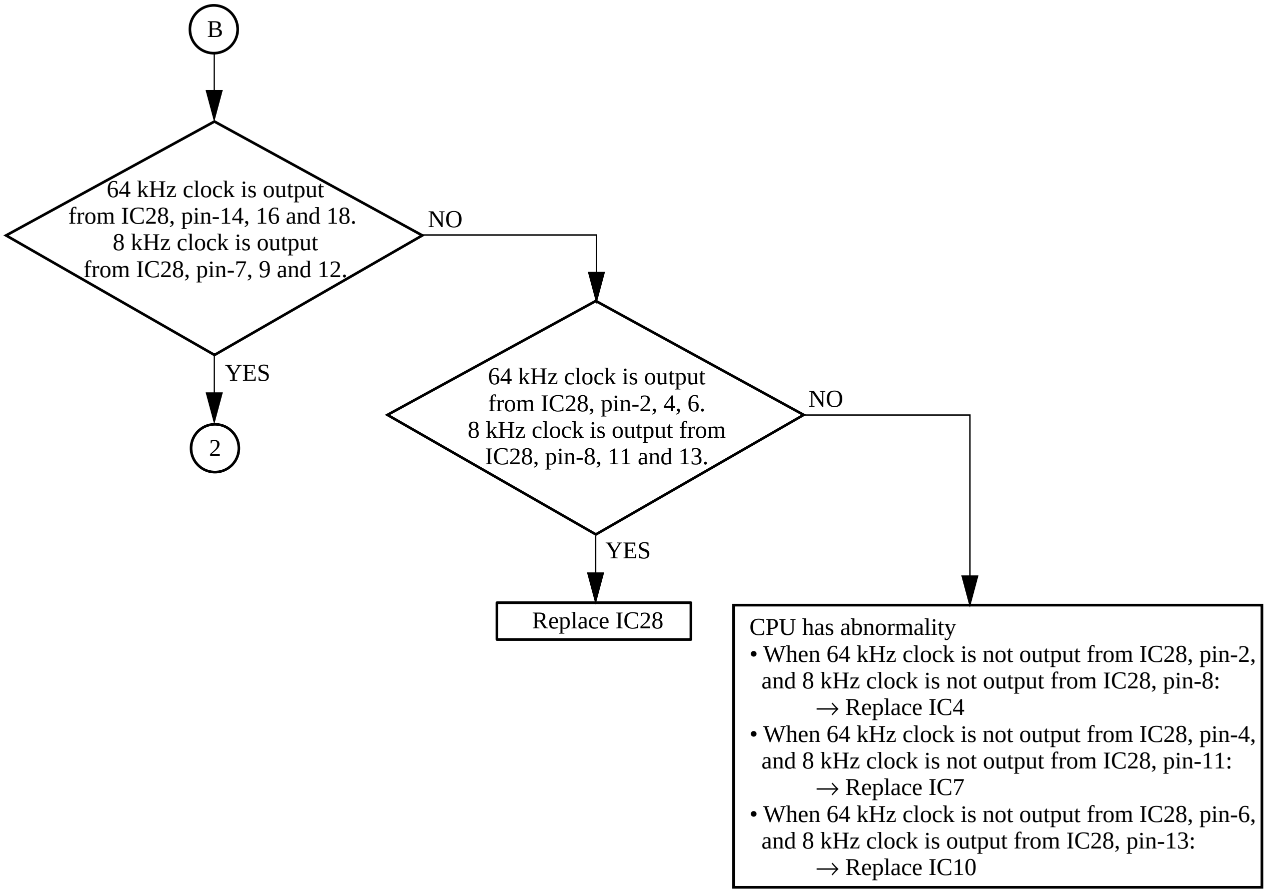
Video image of myself is displayed on monitor

When the analog LINE block has abnormality:
- Check soldering or replace the transformers (T1 to T6) of the port which connection cannot be established.
- Check soldering or replace the resistors R1, R2, R3, R4, R6 or R7 (port A), R9, R10, R11, R12, R14 or R15 (port B), R17, R18, R19, R20, R22 or R23 (port C) of the port which connection cannot be established.
- Check soldering or replace the EMI filter ( LF1, LF2, LF3) of the port which connection cannot be established.

## 1. Host interface block or CPU block has abnormality

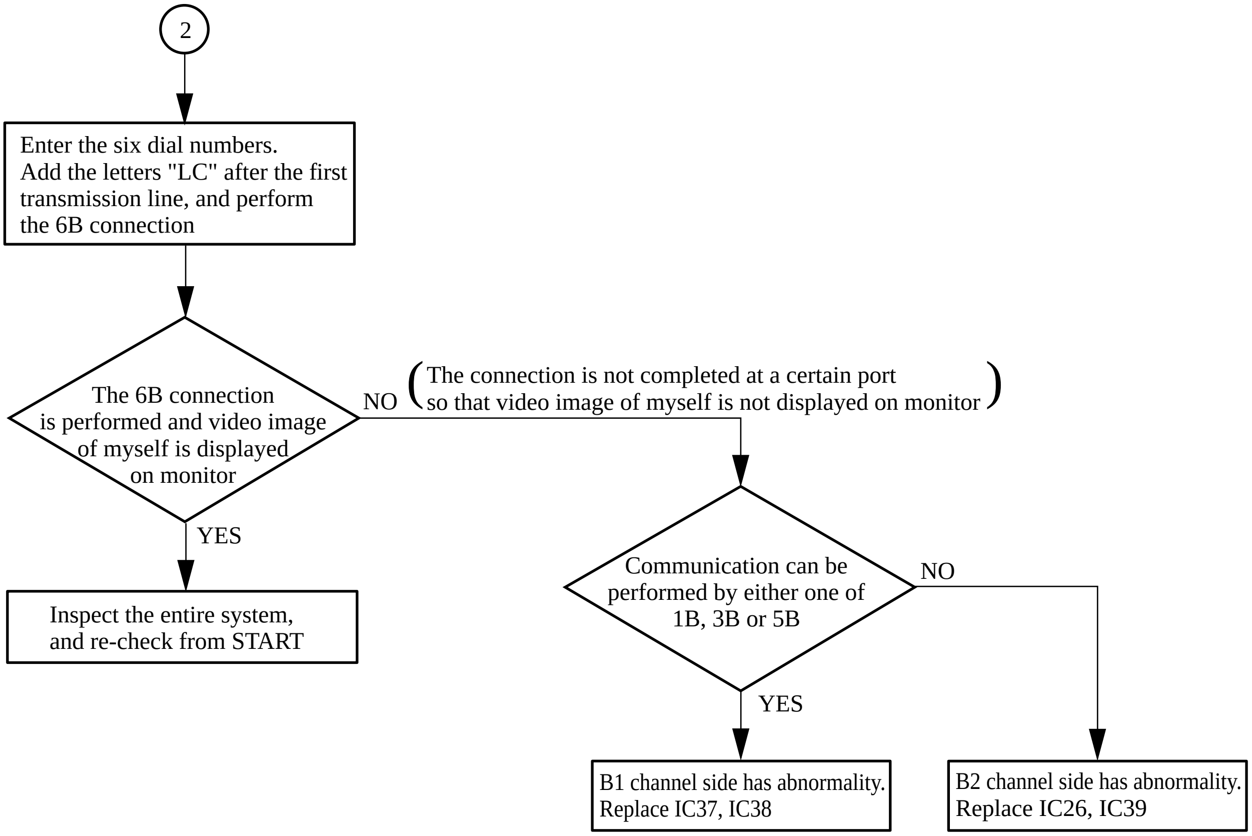

A
Execute “OUT*102,02”
Then execute “IN*102”
Also execute “IN*112”, “IN*122”
in the same way
Note: * indicates a space.
"02H" is output from all ports of A, B and C
NO
YES
Execute “IN*130”
Note: * indicates a space.
Execute“IN*130”
Note: * indicates a space.
Output result is "88H"
NO
YES
Replace IC14
Replace IC17, IC18, IC19
Output result is "88H"
NO
YES
Memory check block has abnormality
A1
Execute “mail*32,22f20004!”
Note: * indicates a space.
ROM version is output from all ports of A, B and C
NO
Replace the ROM(IC5,IC8,IC11)of the port
YES
Inspect the entire system, and re-check from START

## 2. VPR-019 interface has abnormality

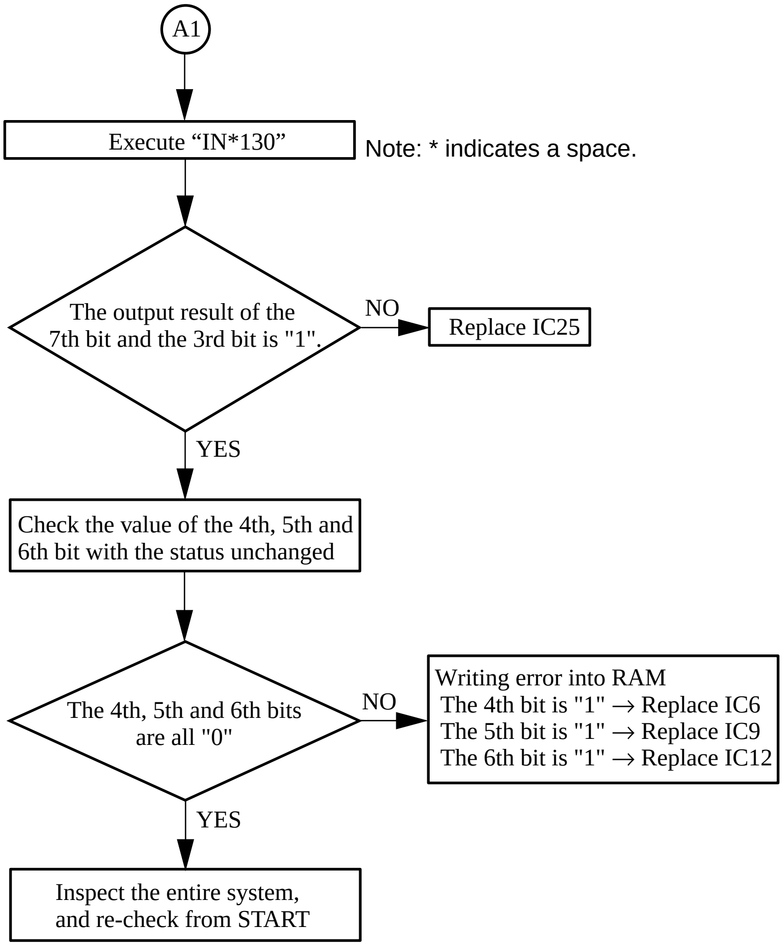

B
64 kHz clock is output from IC28, pin-14, 16 and 18. 8 kHz clock is output from IC28, pin-7, 9 and 12.
NO
YES
2
64 kHz clock is output from IC28, pin-2, 4, 6. 8 kHz clock is output from IC28, pin-8, 11 and 13.
NO
YES
Replace IC28

CPU has abnormality

- When 64 kHz clock is not output from IC28, pin-2, and 8 kHz clock is not output from IC28, pin-8:
  → Replace IC4
- When 64 kHz clock is not output from IC28, pin-4, and 8 kHz clock is not output from IC28, pin-11:
  → Replace IC7
- When 64 kHz clock is not output from IC28, pin-6, and 8 kHz clock is output from IC28, pin-13:
  → Replace IC10


2
Enter the six dial numbers.
Add the letters "LC" after the first transmission line, and perform the 6B connection
The 6B connection is performed and video image of myself is displayed on monitor
NO
(The connection is not completed at a certain port so that video image of myself is not displayed on monitor)
YES
Inspect the entire system, and re-check from START
Communication can be performed by either one of 1B, 3B or 5B
NO
YES
B1 channel side has abnormality. Replace IC37, IC38
B2 channel side has abnormality. Replace IC26, IC39

**Note: The following output is supplied from PC:**
**"IF_MGR> cur_state=BRI:0 0 0 0 0 0 X21:0 0 V35:0 0 RS:0 BON:0"**
**Regarding BRI, communication status of the respective channels are indicated by 1B, 2B, 3B, 4B, 5B and 6B in the order from left.**
**The channel status is "0" when communication is not performed. The channel status is "10" when communication is performed.**


A1
Execute "IN*130"
The output result of the 7th bit and the 3rd bit is "1".
NO
Replace IC25
YES
Check the value of the 4th, 5th and 6th bit with the status unchanged
The 4th, 5th and 6th bits are all "0"
NO
Writing error into RAM
The 4th bit is "1" → Replace IC6
The 5th bit is "1" → Replace IC9
The 6th bit is "1" → Replace IC12
YES
Inspect the entire system, and re-check from START

Note: * indicates a space.

## 3-13. OUTLINE OF IF-541 BOARD OPERATION

### [System Outline]

The IF-541 board enables connection between the PCS-P500/P500P and a terminal adapter (TA) complying with the ITU-T standard X.21 specifications. The PCS-P500/P500P can be connected to the ISDN line via TA. The IF-541 board operates on the physical conditions of using a 15 pin connector, the connection procedure in compliance with the ITU-T standard X.21 and the electrical conditions in compliance with the ITU-T standard V.11. The IF-541 board has the function of call control (connection and disconnection control to line) with TA. When a connection is established, the send signal is routed to the TA while the receive signal is routed to the VPR-019 board where video and audio signals are multiplexed/demultiplexed. The line speed of a port is either 56 or 64 kbps which corresponds to 1B of the BRI. Therefore, the IF-541 board uses 2 (dual) ports when connected to the ISDN line via TA. It uses one port when connected to the high speed system H0 (384 kbps) via TA. It uses one port when using the channel aggregation (transfer speed of 56 to 384 kbps) which is an inter-channel multiplexing system. The IF-541 board consists of the driver/receiver block, sync detection block, CPU block, terminating call detection block, send signal selector block, loop back block and host interface block.
Functions of the respective blocks are described as follows:

### 1) Driver/receiver block

The receiver consists of IC28 and IC29 which converts the balanced analog data having V.11 characteristics to the digital signal of TTL level. The driver is IC30 which converts the TTL signal to the balanced analog data.

### 2) Sync detection block

The sync detection block consists of IC1 to IC8. When TA calls the IF-541 board, the TA board sends the sync signal (SYN) to the IF-541 board. When the sync signal is detected, the IF-541 board sends the interrupt signal to the CPU.

### 3) CPU block

The CPU block consists of IC9, IC10 and IC11. IC9 performs call control with TA according to X.21 procedure, and communication control with the host CPU. IC10 stores firmware regarding the call control.

### 4) Terminating call detection block

When a terminating call is connected from a network, the IF-541 board outputs the interrupt signal of terminating call detection, to the VPR-019 board. The interrupt signal is used as trigger activating the POWER ON operation of processor. A host processor can confirm the port number to which the terminating call is made.

### 5) Send signal selector block

The X.21 system uses the send signal line for both control signal and the data. The send signal line is used for sending and receiving the control signal between the TA and CPU when a terminal issues a call and the call control is performed with the TA. The send signal line is used for data send and receive after the call control is completed. This selection is performed by IC33 and IC34.

### 6) Loop back block

The IF-541 board has the two types of loop backs: one is the local loop back to transmit the send signal to the receive signal line, and the other is the remote loop back to transmit the receive signal to the send signal. The loop backs are used to check the defective boards.

### 7) Host interface block

The host interface block transfers the control signal between the host CPU and the CPU of the IF-541 board.

**[I/O port map]**

The IF-54X (X = 1, 2, 3) board uses the address from 0210H to 024FH. The port map for the address is shown below.

| Address | Name | Details | IN / OUT |
|---|---|---|---|
| 0240 H | OPTST | Option status | (I) |
| 0242 H | OPCNF | Option config | (O) |
| 0244 H | OPRST# | Option reset | (I) |
| 0246 H | OPSDCLR# | OPSDET [1, 2] clear | (I) |
| 0248 H | IFINX | I/F Inport for X.21 | (I) |
| 024A H | IFOUT | I/F Outport for X.21 | (O) |
| 024C H | IFINRS | I/F Inport RS-449 | (I) |
| 024E H | IFOUTRS | I/F Outport RS-449 | (O) |
| 0210 H | IFINV1 | I/F Inport V.35-1 | (I) |
| 0212 H | IFINV2 | I/F Inport V.35-2 | (I) |
| 0214 H | IFOUTV1 | I/F Outport V.35-1 | (O) |
| 0216 H | IFOUTV2 | I/F Outport V.35-2 | (O) |
| 0218 H | | not use | |
| 021A H | | not use | |
| 021C H | | not use | |
| 021E H | | not use | |
| 0220 H | | not use | |
| 0222 H | | not use | |
| 0224 H | | not use | |
| 0226 H | | not use | |
| 0228 H | | not use | |
| 022A H | | not use | |
| 022C H | | not use | |
| 022E H | | not use | |
| 0230 H | | not use | |
| 0232 H | | not use | |
| 0234 H | | not use | |
| 0236 H | | not use | |
| 0238 H | | not use | |
| 023A H | | not use | |
| 023C H | | not use | |
| 023E H | | not use | |

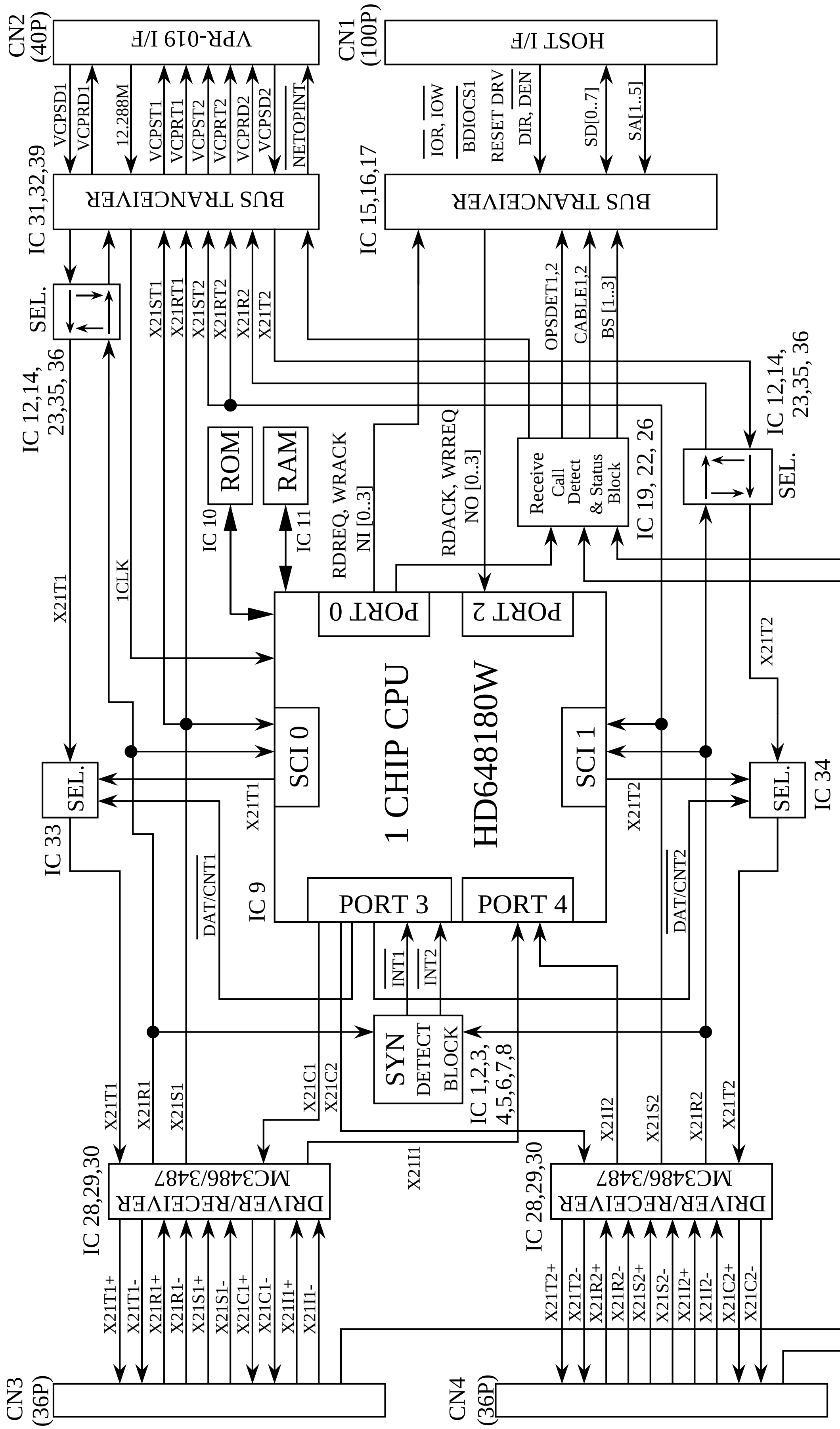

CN2 (40P)
VPR-019 I/F
CN1 (100P)
HOST I/F
VCPSD1
VCPRD1
12.288M
VCPST1
VCPRT1
VCPST2
VCPRT2
VCPRD2
VCPSD2
NETOPINT
IOR, IOW
BDIOCS1
RESET DRV
DIR, DEN
SD[0..7]
SA[1..5]
IC 31,32,39
BUS TRANCEIVER
IC 15,16,17
BUS TRANCEIVER
SEL.
IC 12,14, 23,35, 36
X21ST1
X21RT1
X21ST2
X21RT2
X21R2
X21T2
OPSDET1,2
CABLE1,2
BS [1..3]
IC 12,14, 23,35, 36
SEL.
ROM
RAM
IC 10
IC 11
RDREQ, WRACK
NI [0..3]
RDACK, WRREQ
NO [0..3]
Receive Call Detect & Status Block
IC 19, 22, 26
X21T1
1CLK
PORT 0
PORT 2
1 CHIP CPU
HD648180W
SCI 0
SCI 1
X21T2
SEL.
IC 33
X21T1
X21T2
SEL.
IC 34
DAT/CNT1
DAT/CNT2
IC 9
PORT 3
PORT 4
INT1
INT2
SYN DETECT BLOCK
IC 1,2,3, 4,5,6,7,8
X21T1
X21R1
X21S1
X21C1
X21C2
X21I2
X21S2
X21R2
X21T2
X21I1
IC 28,29,30
DRIVER/RECEIVER MC3486/3487
IC 28,29,30
DRIVER/RECEIVER MC3486/3487
X21T1+
X21T1-
X21R1+
X21R1-
X21S1+
X21S1-
X21C1+
X21C1-
X21I1+
X21I1-
X21T2+
X21T2-
X21R2+
X21R2-
X21S2+
X21S2-
X21I2+
X21I2-
X21C2+
X21C2-
CN3 (36P)
CN4 (36P)

Fig. 3-13-1 IF-541 Board Block Diagram

## 3-14. IF-541 BOARD TROUBLESHOOTING

When any error occurs in the IF-541 board, use the flowchart as shown to locate the cause of the trouble.

**[Equipment required]**

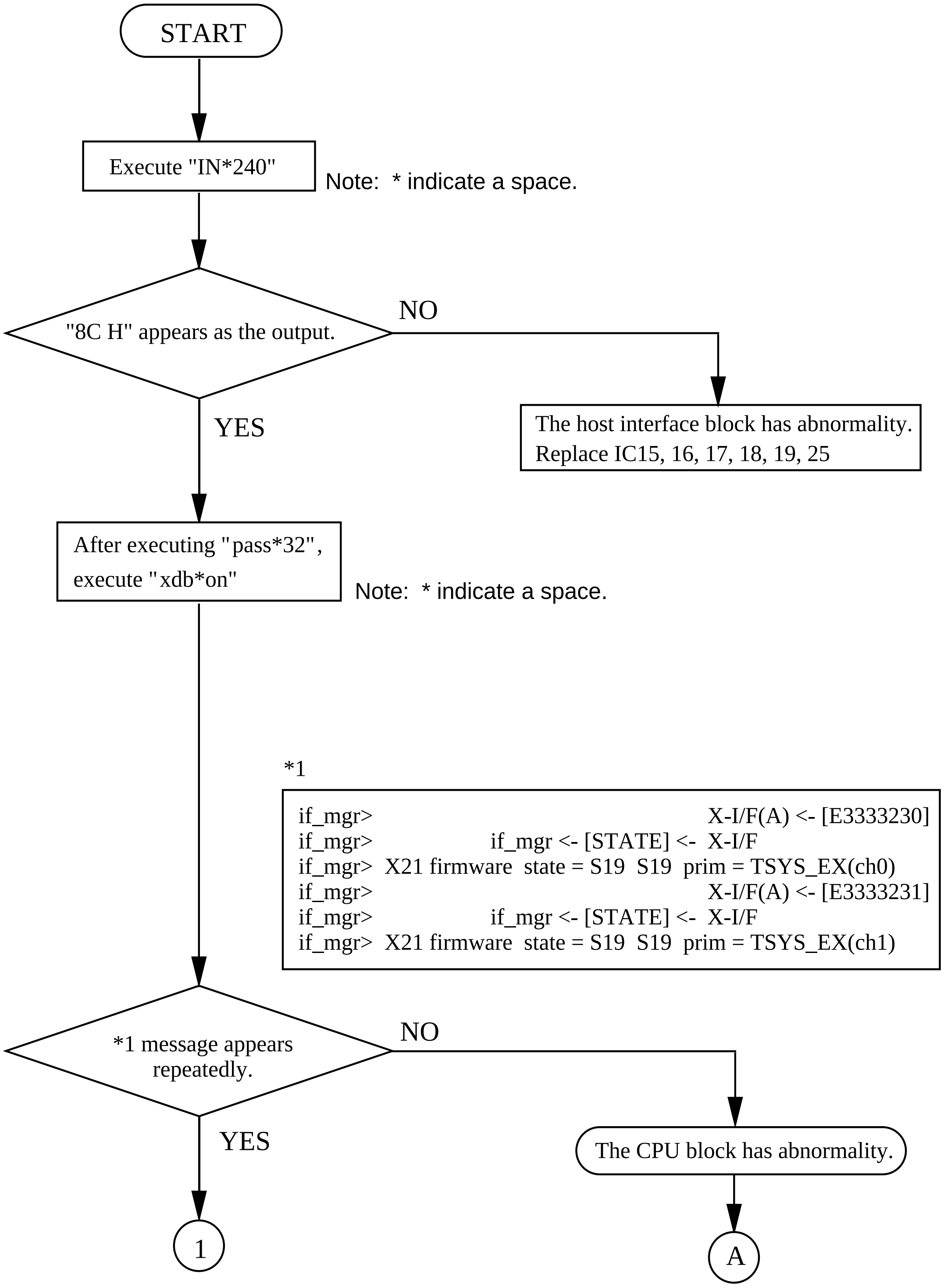
- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Oscilloscope
- Video monitor
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

**[Service tools]**

- VH-951 extension board (Sony part number: J-6389-951-A)
- RS-232C terminal (PC/AT compatible with communication software “CCT”)
- RS-232C cross cable
- S cable
- X.21 cable (PCS-K70)
- X.21 terminal adapter (TA)
- ISDN (8P) modular cable

**[Preparation]**

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the IF-541 board.
3) Insert the IF-541 board to the extension board.
4) Connect the video monitor to the VIDEO OUT MONITOR terminal of the rollabout processor (PCS-P500/P500P).
5) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
6) Remove all X.21 cables. The X.21 cable to use must be assured of good performance.
7) Start up the communication software “CCT” which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
8) Turn on the main power from the remote commander (PCS-R500).

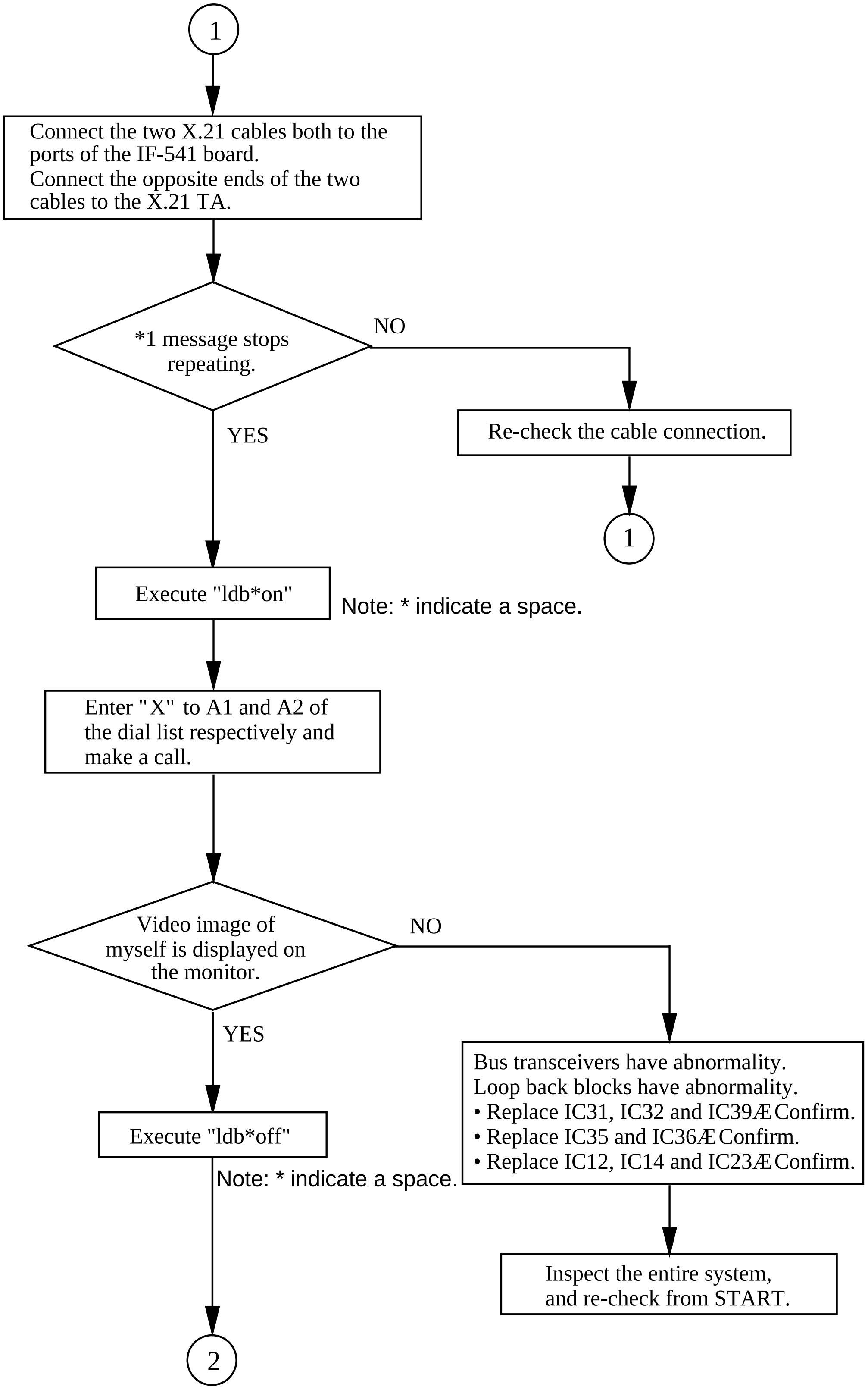

START
Execute "IN*240"
"8C H" appears as the output.
NO
YES
The host interface block has abnormality.
Replace IC15, 16, 17, 18, 19, 25
After executing "pass*32",
execute "xdb*on"
*1
*1 message appears
repeatedly.
NO
YES
The CPU block has abnormality.
1
A

Note: * indicate a space.

Note: * indicate a space.

*1

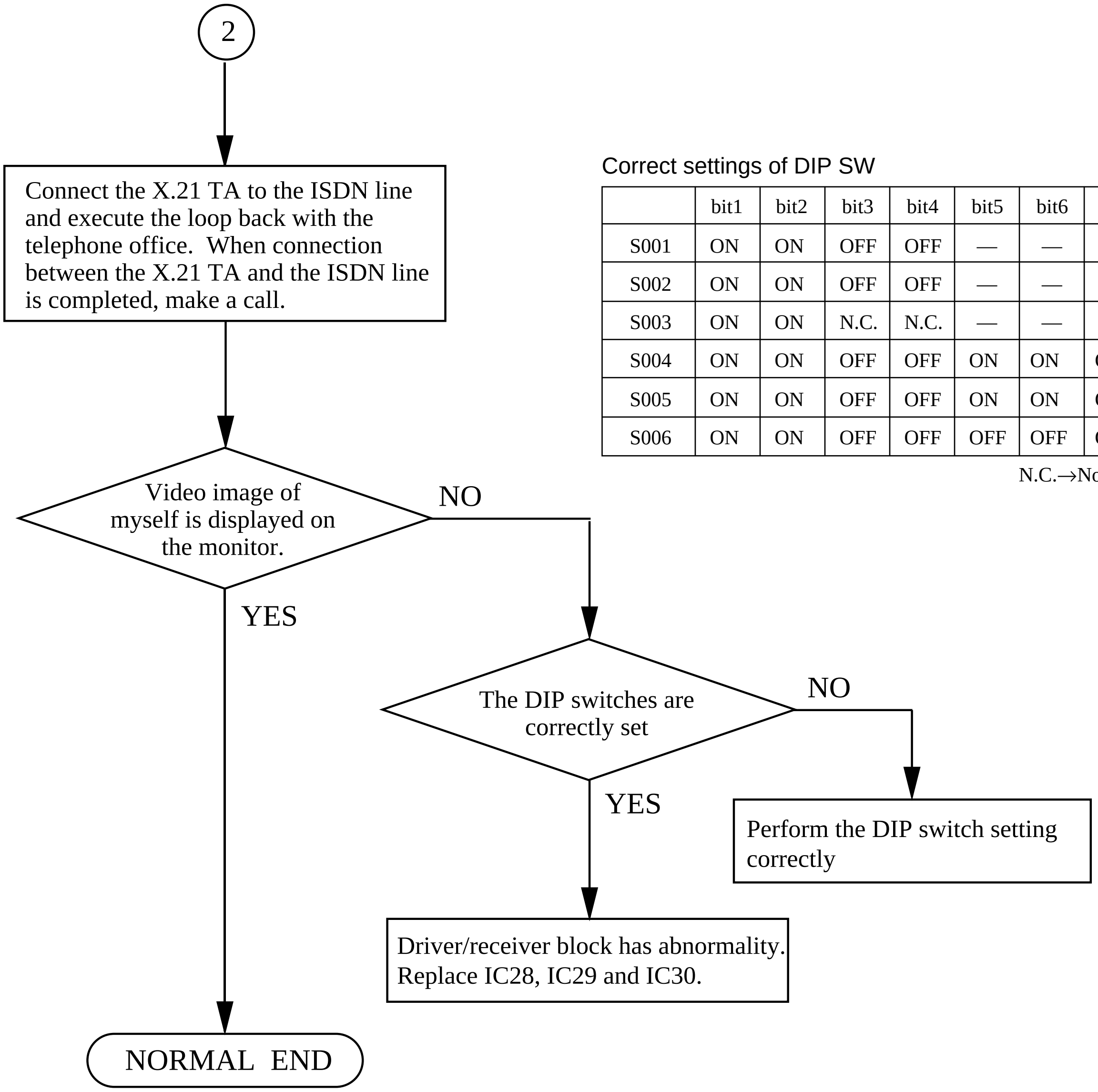
```
if_mgr>                                   X-I/F(A) <- [E3333230]
if_mgr>                  if_mgr <- [STATE] <-  X-I/F
if_mgr>  X21 firmware  state = S19  S19  prim = TSYS_EX(ch0)
if_mgr>                                   X-I/F(A) <- [E3333231]
if_mgr>                  if_mgr <- [STATE] <-  X-I/F
if_mgr>  X21 firmware  state = S19  S19  prim = TSYS_EX(ch1)
```


1
Connect the two X.21 cables both to the ports of the IF-541 board.
Connect the opposite ends of the two cables to the X.21 TA.
*1 message stops repeating.
NO
Re-check the cable connection.
1
YES
Execute "ldb*on"
Note: * indicate a space.
Enter "X" to A1 and A2 of the dial list respectively and make a call.
Video image of myself is displayed on the monitor.
NO
YES
Execute "ldb*off"
Note: * indicate a space.
Bus transceivers have abnormality.
Loop back blocks have abnormality.
• Replace IC31, IC32 and IC39Æ Confirm.
• Replace IC35 and IC36Æ Confirm.
• Replace IC12, IC14 and IC23Æ Confirm.
Inspect the entire system, and re-check from START.
2

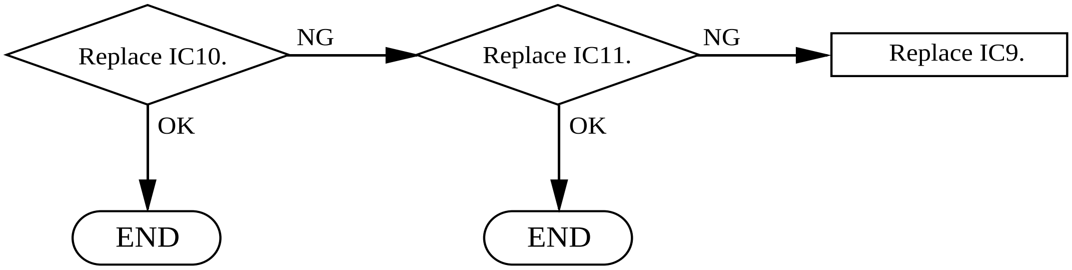
Correct settings of DIP SW

| | bit1 | bit2 | bit3 | bit4 | bit5 | bit6 | bit7 | bit8 |
|---|---|---|---|---|---|---|---|---|
| S001 | ON | ON | OFF | OFF | — | — | — | — |
| S002 | ON | ON | OFF | OFF | — | — | — | — |
| S003 | ON | ON | N.C. | N.C. | — | — | — | — |
| S004 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| S005 | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| S006 | ON | ON | OFF | OFF | OFF | OFF | ON | ON |

N.C.→Not Connected


2
Connect the X.21 TA to the ISDN line and execute the loop back with the telephone office. When connection between the X.21 TA and the ISDN line is completed, make a call.
Video image of myself is displayed on the monitor.
NO
YES
The DIP switches are correctly set
NO
YES
Perform the DIP switch setting correctly
Driver/receiver block has abnormality. Replace IC28, IC29 and IC30.
NORMAL END

**1. CPU block has abnormality.**


Replace IC10.
NG
Replace IC11.
NG
Replace IC9.
OK
OK
END
END

## 3-15. OUTLINE OF IF-542 BOARD OPERATION

### [System Outline]

The IF-542 board enables connection between the PCS-P500/P500P and a terminal adapter (TA) complying with the ITU-T standard V.35 specifications. The PCS-P500/P500P can be connected to the ISDN line via TA. The IF-542 board operates on the physical conditions of using an ISO standard 34-pin connector, the connection procedure in compliance with the ITU-T standard V.35 and the electrical conditions in compliance with the ITU-T standards V.35 and V.28. The IF-542 board has the function of call control (connection and disconnection control to line) with TA. When a connection is established, the send signal is routed to the TA while the receive signal is routed to the VPR-019 board where video and audio signals are multiplexed/demultiplexed. The connection procedure of EIA standard RS-366 is used. The line speed of a port is either 56 or 64 kbps which corresponds to 1B of the BRI. Therefore, the IF-542 board uses 2 (dual) ports when connected to the ISDN line via TA. It uses one port when connected to the high speed system H0 (384 kbps) via TA. It uses one port when using the channel aggregation (transfer speed of 56 to 384 kbps) which is an inter-channel multiplexing system. The IF-542 board consists of the driver/receiver block, terminating call detection block and host interface block.
Functions of the respective blocks are described as follows:

### 1) Driver/receiver block

The driver/receiver of the V.35 signal is IC2 and IC3 that convert the analog balanced data having the V.35 characteristics and being supplied from TA, to the digital signal of TTL level. It also converts the digital signal of TTL level to the analog data of balanced type. The driver/receiver of the RS-366 (V.28 characteristics) signal is IC7 to IC10 and IC13 to IC16 that convert the analog unbalanced data having the V.28 characteristics to the TTL level signal. In addition, IC2 and IC3 have the loop-back function.

### 2) Terminating call detection block

When a terminating call is connected from a network, the IF-542 board outputs the interrupt signal of terminating call detection, to the VPR-019 board. The interrupt signal is used as trigger activating the POWER ON operation of processor. A host processor can confirm the port number to which the terminating call is made.

### 3) Host interface block

The host interface block transfers the V.35 and RS-366 control signals between the host CPU and the CPU of the IF-542 board.

**[I/O port map]**

The IF-54X (X = 1, 2, 3) board uses the address from 0210H to 024FH. The port map for the address is shown below.

| Address | Name | Details | IN / OUT |
|---|---|---|---|
| 0240 H | OPTST | Option status | (I) |
| 0242 H | OPCNF | Option config | (O) |
| 0244 H | OPRST# | Option reset | (I) |
| 0246 H | OPSDCLR# | OPSDET [1, 2] clear | (I) |
| 0248 H | IFINX | I/F Inport for X.21 | (I) |
| 024A H | IFOUT | I/F Outport for X.21 | (O) |
| 024C H | IFINRS | I/F Inport RS-449 | (I) |
| 024E H | IFOUTRS | I/F Outport RS-449 | (O) |
| 0210 H | IFINV1 | I/F Inport V.35-1 | (I) |
| 0212 H | IFINV2 | I/F Inport V.35-2 | (I) |
| 0214 H | IFOUTV1 | I/F Outport V.35-1 | (O) |
| 0216 H | IFOUTV2 | I/F Outport V.35-2 | (O) |
| 0218 H | | not use | |
| 021A H | | not use | |
| 021C H | | not use | |
| 021E H | | not use | |
| 0220 H | | not use | |
| 0222 H | | not use | |
| 0224 H | | not use | |
| 0226 H | | not use | |
| 0228 H | | not use | |
| 022A H | | not use | |
| 022C H | | not use | |
| 022E H | | not use | |
| 0230 H | | not use | |
| 0232 H | | not use | |
| 0234 H | | not use | |
| 0236 H | | not use | |
| 0238 H | | not use | |
| 023A H | | not use | |
| 023C H | | not use | |
| 023E H | | not use | |

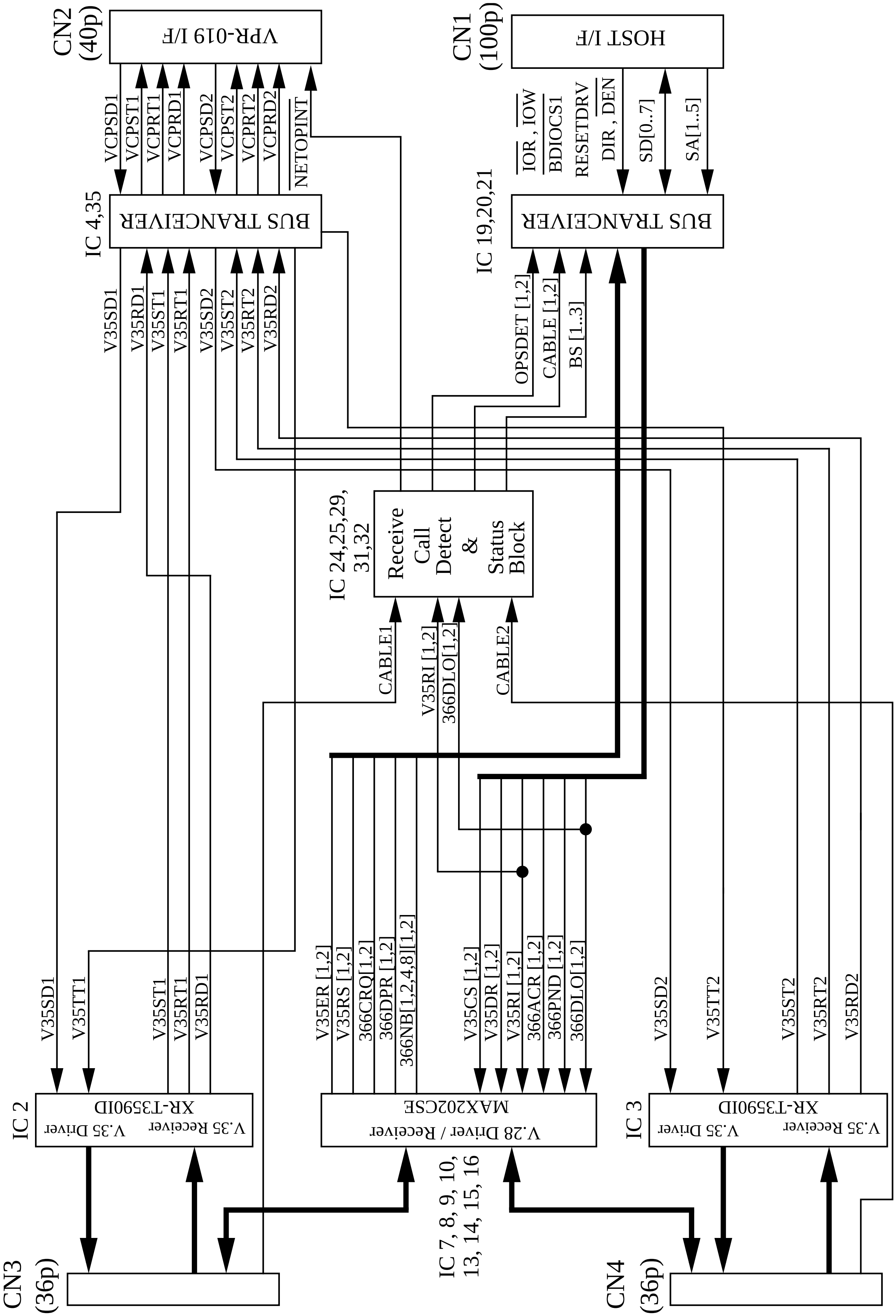

CN2
(40p)
VPR-019 I/F
CN1
(100p)
HOST I/F
VCPSD1
VCPST1
VCPRT1
VCPRD1
VCPSD2
VCPST2
VCPRT2
VCPRD2
NETOPINT
IOR , IOW
BDIOCS1
RESETDRV
DIR , DEN
SD[0..7]
SA[1..5]
IC 4,35
BUS TRANCEIVER
IC 19,20,21
BUS TRANCEIVER
V35SD1
V35RD1
V35ST1
V35RT1
V35SD2
V35ST2
V35RT2
V35RD2
OPSDET [1,2]
CABLE [1,2]
BS [1..3]
IC 24,25,29,
31,32
Receive
Call
Detect
&
Status
Block
CABLE1
V35RI [1,2]
366DLO[1,2]
CABLE2
V35SD1
V35TT1
V35ST1
V35RT1
V35RD1
V35ER [1,2]
V35RS [1,2]
366CRQ[1,2]
366DPR [1,2]
366NB[1,2,4,8][1,2]
V35CS [1,2]
V35DR [1,2]
V35RI [1,2]
366ACR [1,2]
366PND [1,2]
366DLO[1,2]
V35SD2
V35TT2
V35ST2
V35RT2
V35RD2
IC 2
V.35 Receiver
V.35 Driver
XR-T3590ID
V.28 Driver / Receiver
MAX202CSE
IC 3
V.35 Receiver
V.35 Driver
XR-T3590ID
IC 7, 8, 9, 10,
13, 14, 15, 16
CN3
(36p)
CN4
(36p)

Fig. 3-15-1 IF-542 Board Block Diagram

## 3-16. IF-542 BOARD TROUBLESHOOTING

When any error occurs in the IF-542 board, use the flowchart as shown to locate the cause of the trouble.

**[Equipment required]**

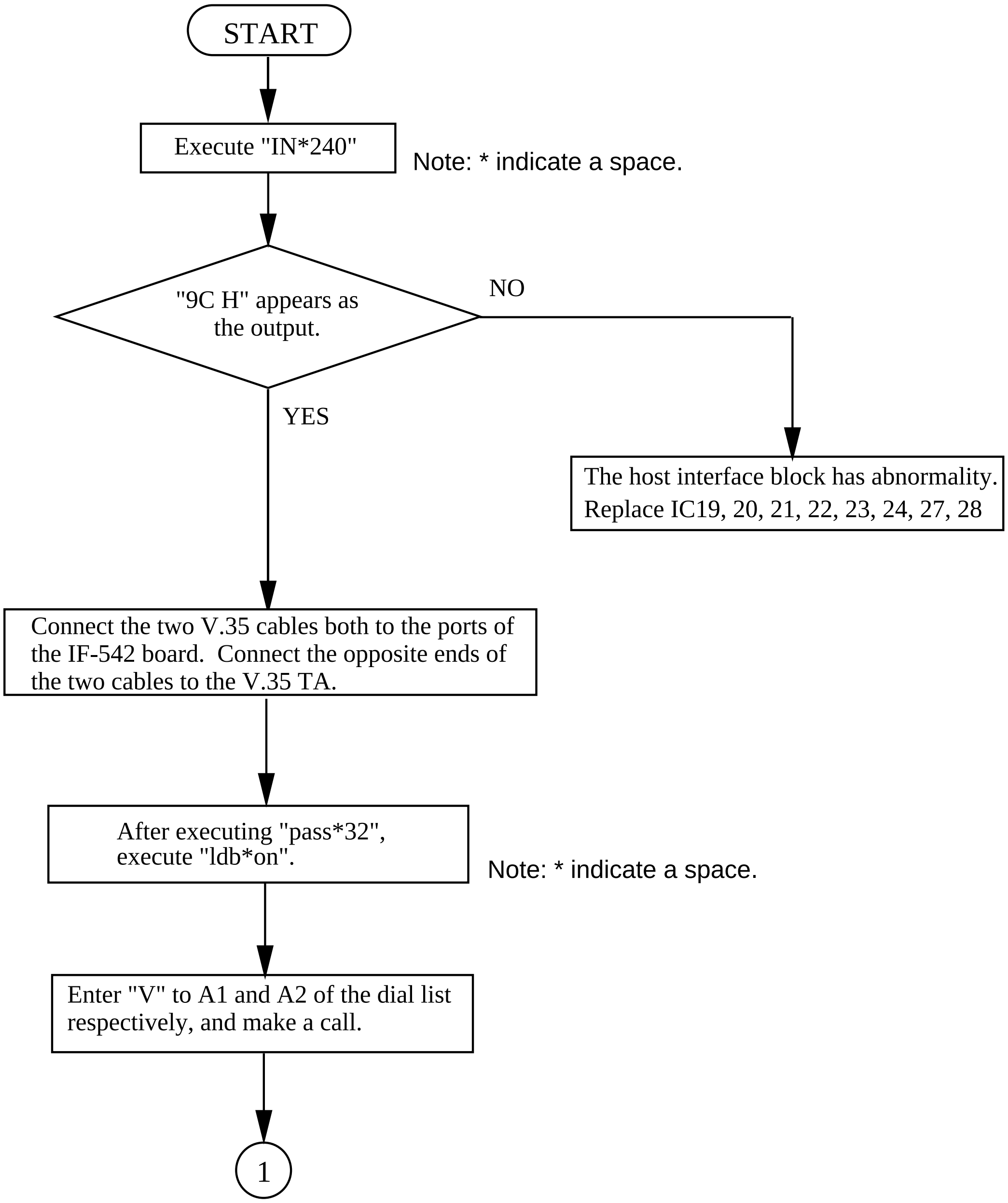
- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Oscilloscope
- Video monitor
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

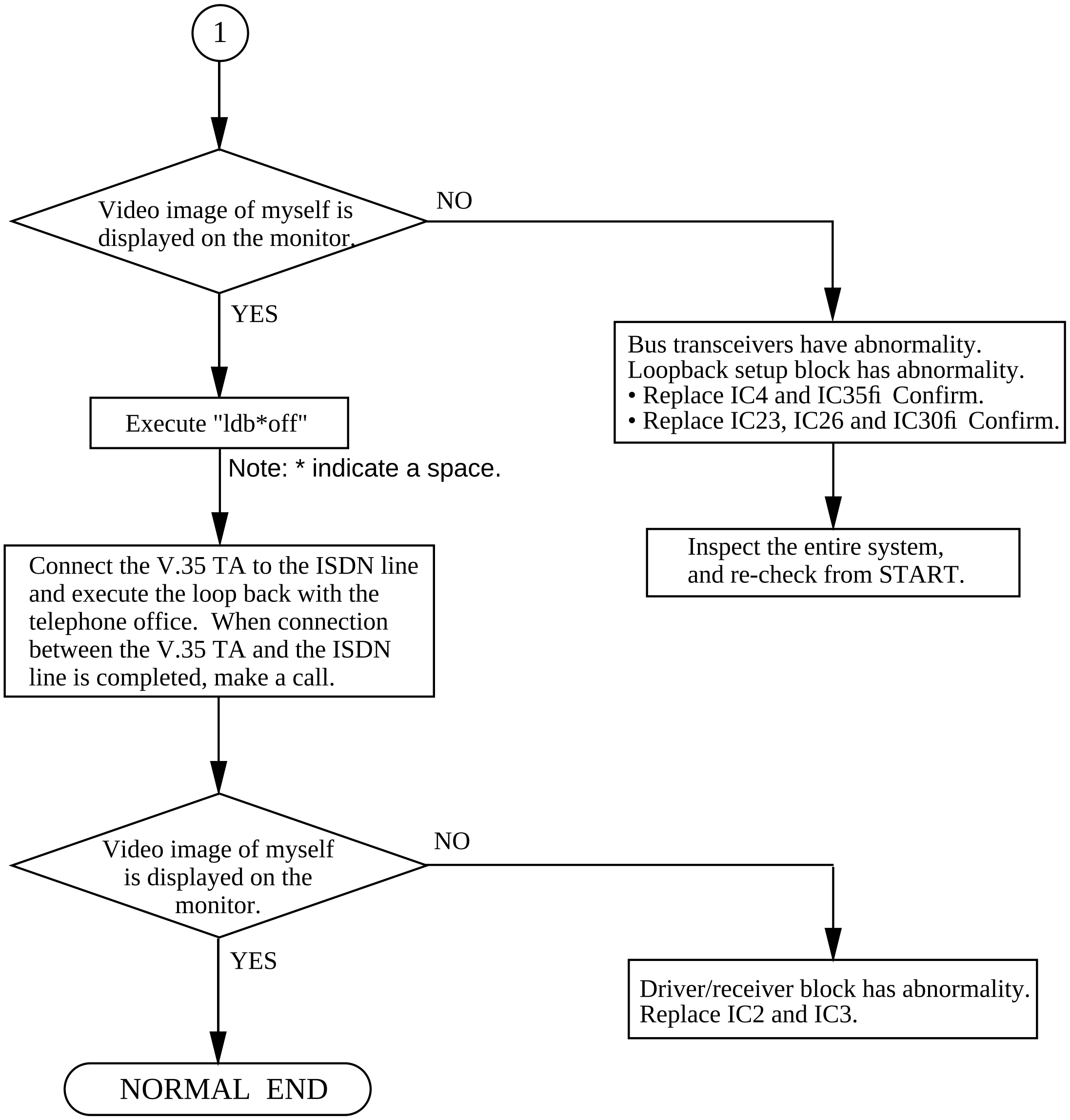
**[Service tools]**

- VH-951 extension board (Sony part number: J-6389-951-A)
- RS-232C terminal (PC/AT compatible with communication software “CCT”)
- RS-232C cross cable
- S cable
- V.35 cable (PCS-K32)
- V.35 terminal adapter (TA)
- ISDN (8P) modular cable

**[Preparation]**

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the IF-542 board.
3) Insert the IF-542 board to the extension board.
4) Connect the video monitor to the VIDEO OUT MONITOR terminal of the rollabout processor (PCS-P500/P500P).
5) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
6) Remove all V.35 cables. The V.35 cable to use must be assured of good performance.
7) Start up the communication software “CCT” which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
8) Turn on the main power from the remote commander (PCS-R500).


START
Execute "IN*240"
Note: * indicate a space.
"9C H" appears as the output.
NO
YES
The host interface block has abnormality.
Replace IC19, 20, 21, 22, 23, 24, 27, 28
Connect the two V.35 cables both to the ports of the IF-542 board. Connect the opposite ends of the two cables to the V.35 TA.
After executing "pass*32", execute "ldb*on".
Note: * indicate a space.
Enter "V" to A1 and A2 of the dial list respectively, and make a call.
1


1
Video image of myself is displayed on the monitor.
NO
YES
Bus transceivers have abnormality.
Loopback setup block has abnormality.
• Replace IC4 and IC35fi Confirm.
• Replace IC23, IC26 and IC30fi Confirm.
Execute "ldb*off"
Note: * indicate a space.
Inspect the entire system, and re-check from START.
Connect the V.35 TA to the ISDN line and execute the loop back with the telephone office. When connection between the V.35 TA and the ISDN line is completed, make a call.
Video image of myself is displayed on the monitor.
NO
YES
Driver/receiver block has abnormality.
Replace IC2 and IC3.
NORMAL END

## 3-17. OUTLINE OF IF-543 BOARD OPERATION

### [System Outline]

The IF-543 board enables connection between the PCS-P500/P500P and a terminal adapter (TA) complying with the EIA standard RS-449 specifications. The PCS-P500/P500P can be connected to the ISDN line via TA. The IF-543 board operates on the physical conditions of using a 37-pin connector, the connection procedure in compliance with the EIA standard RS-449 and the electrical conditions in compliance with the EIA standard RS-422. The IF-543 board has the function of call control (connection and disconnection control to line) with TA. When a connection is established, the send signal is routed to the TA while the receive signal is routed to the VPR-019 board where video and audio signals are multiplexed/demultiplexed. The connection is to be made manually. The line speed of a port is 384 kbps of the high speed system H0 which corresponds to 6B of the BRI. The transfer speed is variable in the range from 56 to 384 kbps when using the channel aggregation that is an inter-channel multiplexing system. The IF-543 board consists of the driver/receiver block, loop back block and host interface block.
Functions of the respective blocks are described as follows:

### 1) Driver/receiver block

The RS-422/RS-423 signal receiver consists of IC1 and IC2 which converts the balanced and unbalanced analog data having RS-422/RS-423 characteristics to the digital signal of TTL level. The driver is IC3 which converts the TTL signal to the balanced analog data.

### 2) Loop back block

The IF-543 board has the two types of loop backs: one is the local loop back to transmit the send signal to the receive signal line, and the other is the remote loop back to transmit the receive signal to the send signal. The loop backs are used to check the defective boards.

### 3) Host interface block

The host interface block transfers the RS-449 control signal between the host CPU and the CPU of the IF-543 board.

**[I/O port map]**

The IF-54X (X = 1, 2, 3) board uses the address from 0210H to 024FH. The port map for the address is shown below.

| Address | Name | Details | IN / OUT |
|---|---|---|---|
| 0240 H | OPTST | Option status | (I) |
| 0242 H | OPCNF | Option config | (O) |
| 0244 H | OPRST# | Option reset | (I) |
| 0246 H | OPSDCLR# | OPSDET [1, 2] clear | (I) |
| 0248 H | IFINX | I/F Inport for X.21 | (I) |
| 024A H | IFOUT | I/F Outport for X.21 | (O) |
| 024C H | IFINRS | I/F Inport RS-449 | (I) |
| 024E H | IFOUTRS | I/F Outport RS-449 | (O) |
| 0210 H | IFINV1 | I/F Inport V.35-1 | (I) |
| 0212 H | IFINV2 | I/F Inport V.35-2 | (I) |
| 0214 H | IFOUTV1 | I/F Outport V.35-1 | (O) |
| 0216 H | IFOUTV2 | I/F Outport V.35-2 | (O) |
| 0218 H | | not use | |
| 021A H | | not use | |
| 021C H | | not use | |
| 021E H | | not use | |
| 0220 H | | not use | |
| 0222 H | | not use | |
| 0224 H | | not use | |
| 0226 H | | not use | |
| 0228 H | | not use | |
| 022A H | | not use | |
| 022C H | | not use | |
| 022E H | | not use | |
| 0230 H | | not use | |
| 0232 H | | not use | |
| 0234 H | | not use | |
| 0236 H | | not use | |
| 0238 H | | not use | |
| 023A H | | not use | |
| 023C H | | not use | |
| 023E H | | not use | |

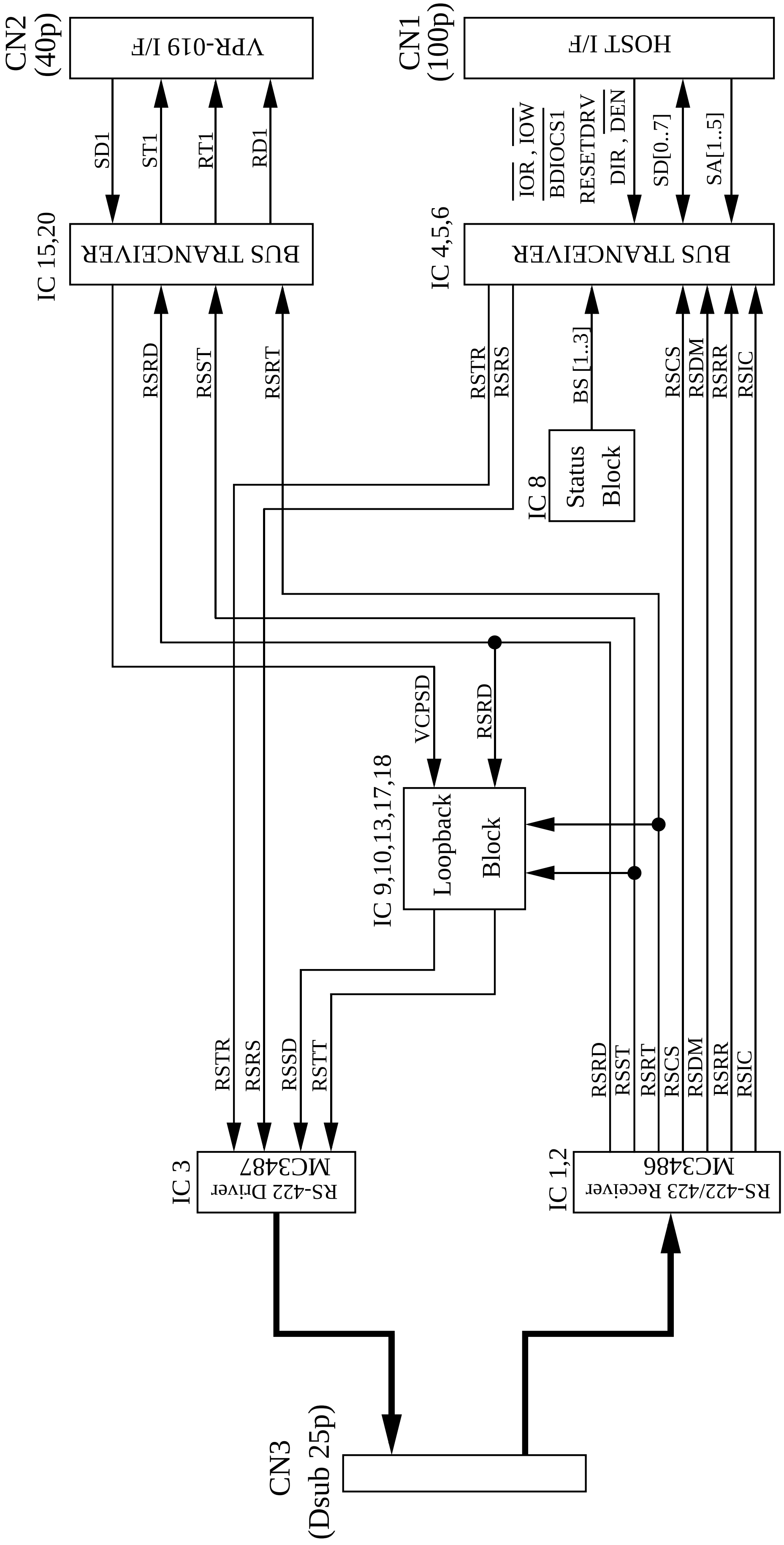

CN2
(40p)
VPR-019 I/F
CN1
(100p)
HOST I/F
SD1
ST1
RT1
RD1
$\overline{IOR}$ , $\overline{IOW}$
$\overline{BDIOCS1}$
RESETDRV
DIR , $\overline{DEN}$
SD[0..7]
SA[1..5]
IC 15,20
BUS TRANCEIVER
IC 4,5,6
BUS TRANCEIVER
RSRD
RSST
RSRT
RSTR
RSRS
BS [1..3]
RSCS
RSDM
RSRR
RSIC
IC 8
Status
Block
VCPSD
RSRD
IC 9,10,13,17,18
Loopback
Block
RSTR
RSRS
RSSD
RSTT
RSRD
RSST
RSRT
RSCS
RSDM
RSRR
RSIC
IC 3
MC3487
RS-422 Driver
IC 1,2
MC3486
RS-422/423 Receiver
CN3
(Dsub 25p)

Fig. 3-17-1 IF-543 Board Block Diagram

## 3-18. IF-543 BOARD TROUBLESHOOTING

When any error occurs in the IF-543 board, use the flowchart as shown to locate the cause of the trouble.

### [Equipment required]

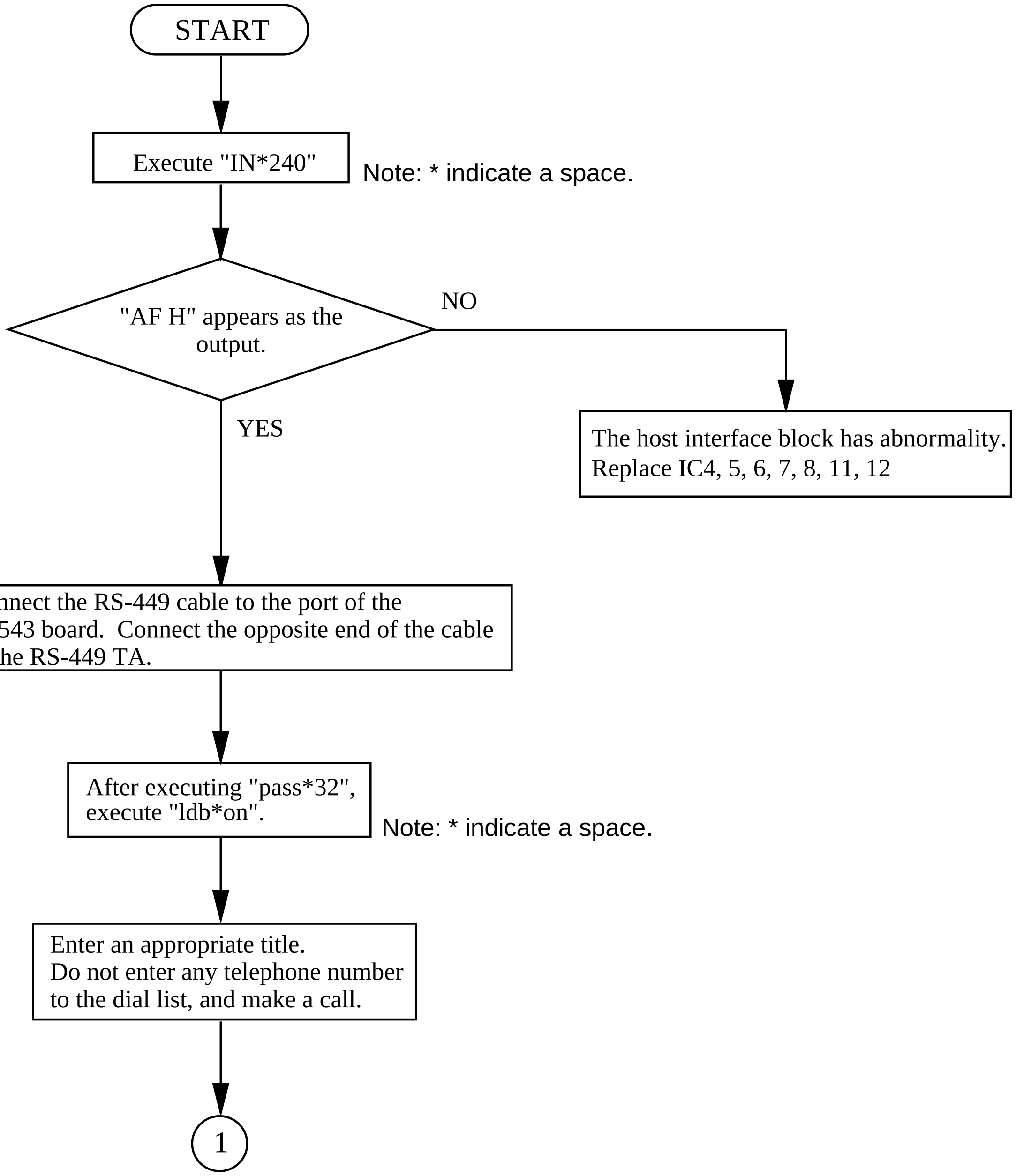
- PCS-5100/5100P system
  (Rollabout processor (PCS-P500/P500P)
  Camera unit (PCS-C300/C300P)
  Audio unit (PCS-A500/A510)
  Remote commander (PCS-R500))
- Oscilloscope
- Video monitor
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

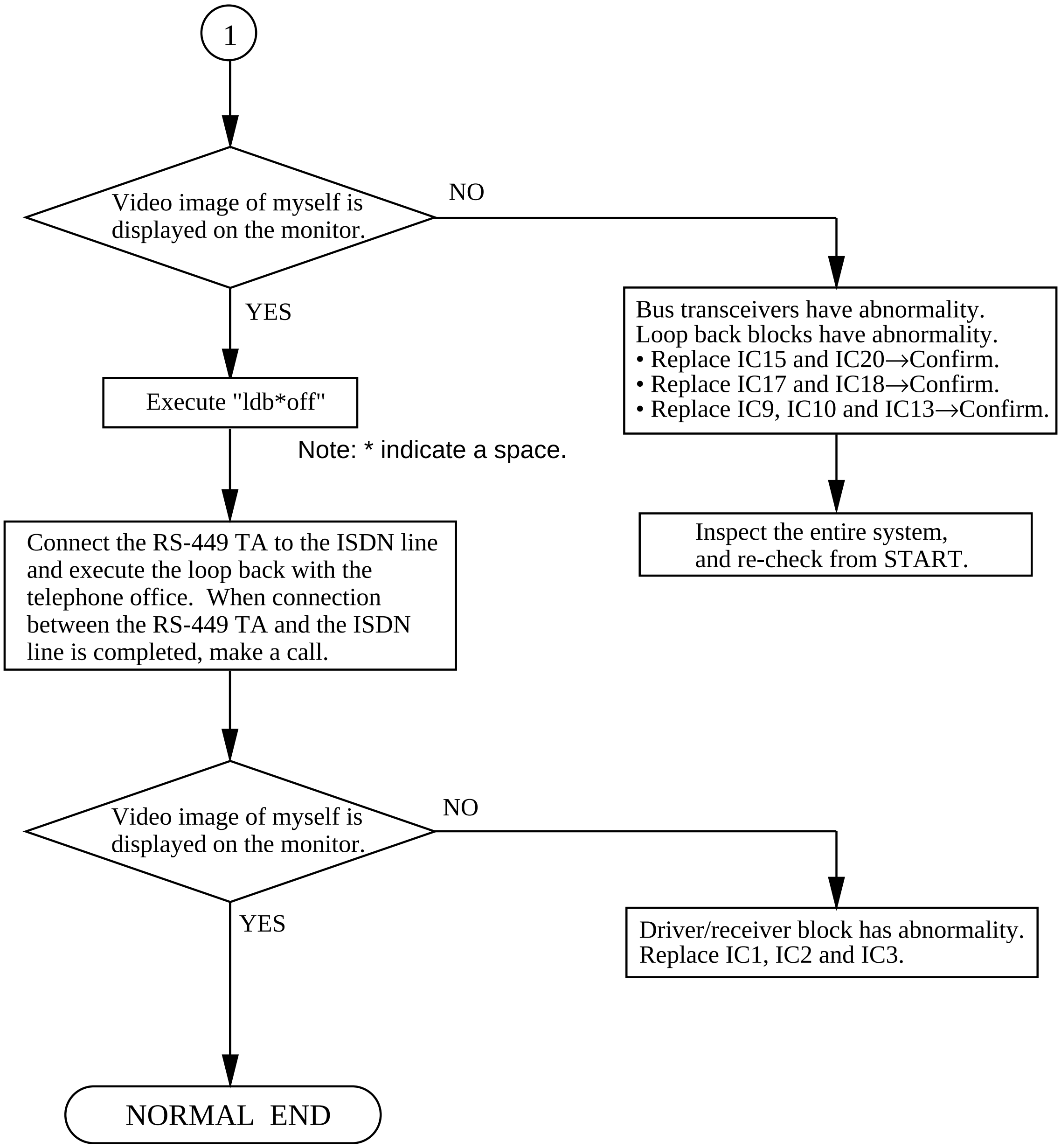
### [Service tools]

- VH-951 extension board (Sony part number: J-6389-951-A)
- RS-232C terminal (PC/AT compatible with communication software "CCT")
- RS-232C cross cable
- S cable
- RS-449 cable (PCS-K40)
- RS-449 terminal adapter (TA)

### [Preparation]

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the IF-543 board.
3) Insert the IF-543 board to the extension board.
4) Connect the video monitor to the VIDEO OUT MONITOR terminal of the rollabout processor (PCS-P500/P500P).
5) Connect the RS-232C terminal (to be abbreviated simply as terminal hereafter) to the AUX CONTROL terminal of the rollabout processor (PCS-P500/P500P).
6) Remove all RS-449 cables. The RS-449 cable to use must be assured of good performance.
7) Start up the communication software "CCT" which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
8) Turn on the main power from the remote commander (PCS-R500).


START
Execute "IN*240"
Note: * indicate a space.
"AF H" appears as the output.
NO
YES
The host interface block has abnormality.
Replace IC4, 5, 6, 7, 8, 11, 12
Connect the RS-449 cable to the port of the IF-543 board. Connect the opposite end of the cable to the RS-449 TA.
After executing "pass*32", execute "ldb*on".
Note: * indicate a space.
Enter an appropriate title.
Do not enter any telephone number to the dial list, and make a call.
1


1
Video image of myself is displayed on the monitor.
NO
YES
Bus transceivers have abnormality.
Loop back blocks have abnormality.
• Replace IC15 and IC20→Confirm.
• Replace IC17 and IC18→Confirm.
• Replace IC9, IC10 and IC13→Confirm.
Execute "ldb*off"
Note: * indicate a space.
Inspect the entire system, and re-check from START.
Connect the RS-449 TA to the ISDN line and execute the loop back with the telephone office. When connection between the RS-449 TA and the ISDN line is completed, make a call.
Video image of myself is displayed on the monitor.
NO
YES
Driver/receiver block has abnormality. Replace IC1, IC2 and IC3.
NORMAL END

## 3-19. OUTLINE OF IF-583 BOARD OPERATION

### 3-19-1. Outline on Operation

The PCS-5000/5000P series is equipped with a 64k bits/s × 6 transmission mode based upon ITU-T H.221 recommendations, but it cannot communicate with teleconferencing systems manufactured by other corporations at transmission speeds that exceed 128k bits/s. Communications based on the ISO/IEC13871 international standards for synchronization and unification are therefore required with the use of multiple channels of the basic ISDN line (BRI). The IF-583 board that enables ISO/IEC13871 mode B1 transfer function, and allows communications with other companies' teleconferencing systems at a maximum transmission speed of 384k bits/s. As ISO/IEC13871 has been created based on BONDING (Bandwidth On Demand Interoperability Group), it is simply known as BONDING. In addition to this, as the function for multiple channel unification simply means reverse multiplexer operations, it is known as an inverse multiplexer (I/MUX).

### 3-19-2. Block Diagrams

A block diagram showing the flow of the IF-583 board signals is provided in Fig.1. The hardware configuration consists of a TDM ASIC block and a DSP block. The TDM ASIC block demultipexes the three BRI lines into multiple branches respectively, and the DSP block performs the BONDING process and the host I/F processing. The DSP block is equipped with three SRAMs (1 Mbit) as buffers for a maximum of 1.024 seconds delay between BRI channels.

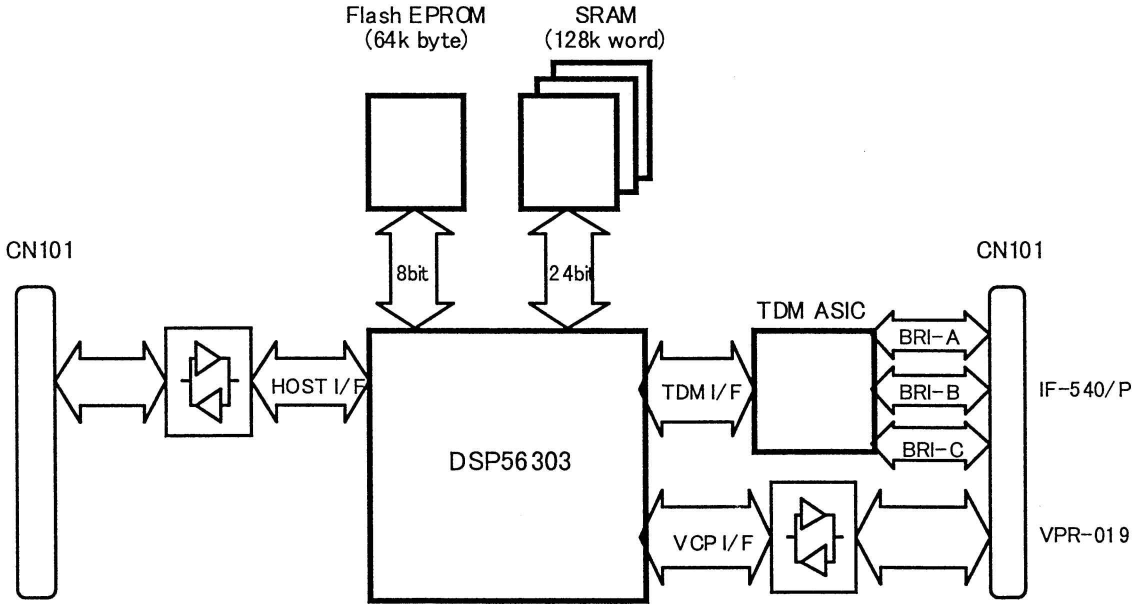


Fig. 1

## 3-19-3. Theory of Operation

### 1. Operations when the power supply switch is turned on

The operations between the host and the DSP after the power supply switch has been turned on are shown in Fig. 2.

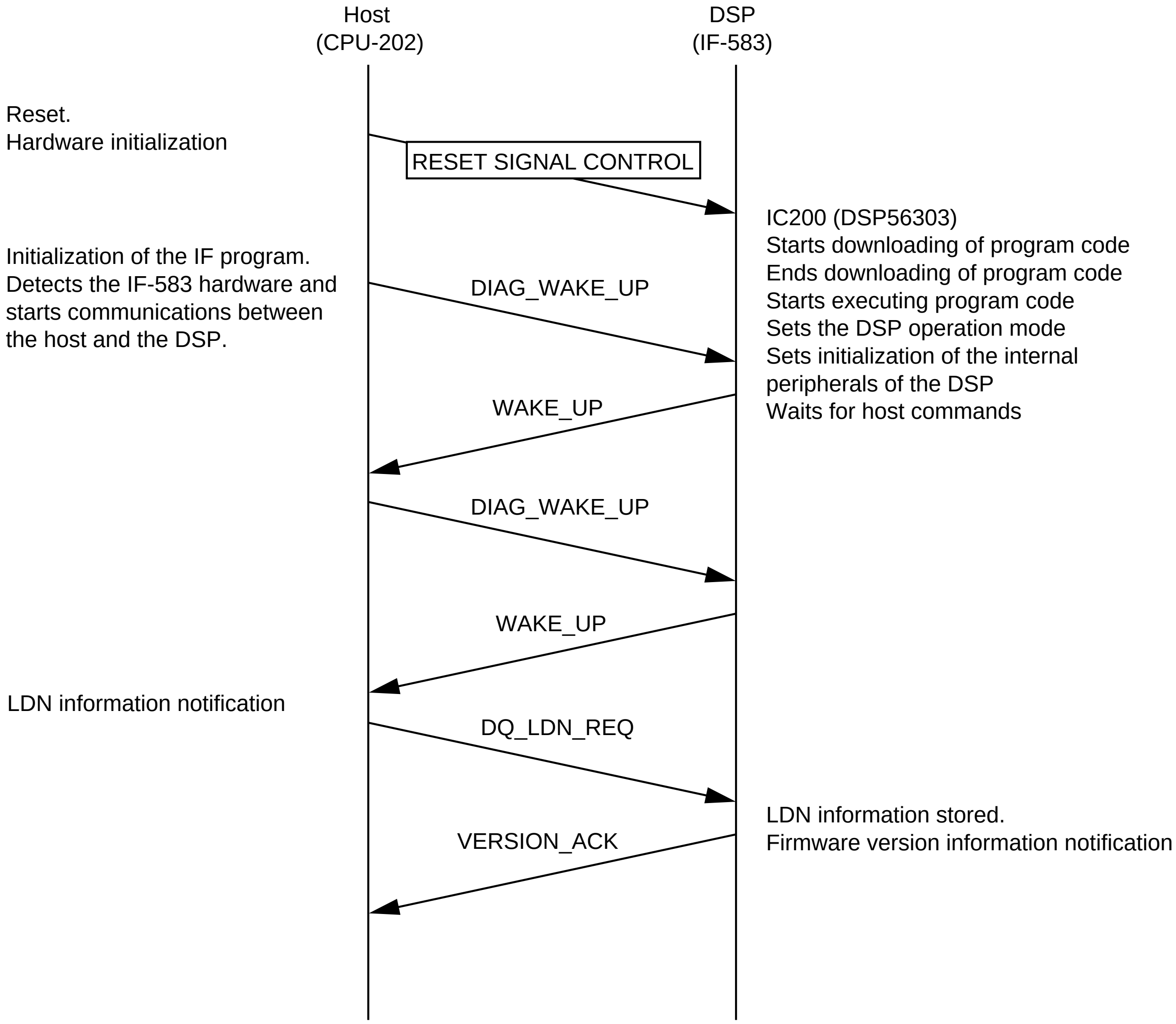

Host
(CPU-202)
DSP
(IF-583)
Reset.
Hardware initialization
RESET SIGNAL CONTROL
IC200 (DSP56303)
Starts downloading of program code
Ends downloading of program code
Starts executing program code
Sets the DSP operation mode
Sets initialization of the internal
peripherals of the DSP
Waits for host commands
Initialization of the IF program.
Detects the IF-583 hardware and
starts communications between
the host and the DSP.
DIAG_WAKE_UP
WAKE_UP
DIAG_WAKE_UP
WAKE_UP
LDN information notification
DQ_LDN_REQ
LDN information stored.
Firmware version information notification
VERSION_ACK

Fig. 2

As the reset signals canceled by the host after the main power is turned on, the IC200 DSP56303 starts executing the program code that is supplied from the external IC204 flash EPROM via the DSP memory path. The downloaded program code is stored in the program RAM area in the DSP, and the program is automatically executed once the specified number of bytes have been stored.

Once the program is executed, the DSP PLL settings and host I/F mode settings are performed, and the built-in peripherals (interrupt controller, timers, serial controller) are initialized. When initialization is completed the system waits for command messages to be supplied from the host.

The host issues the DIAG_WAKE_UP (0BF) command to request recovery from the sleep mode. When the DSP receives this command, it issues an interrupt internally, then reads and analyzes the command. After the command is analyzed, the WAKE_UP (0BBF) is return to the host. The host repeats this process twice. The host then issues the DQ_LDN_REQ (5aaaaaaabb......eeffffffff) command to notify the LDN information. This information is stored in the DSP as it is required for exchanging DN (Directory Numbers) during BONDING connections. Three digit numbers representing the DSP firmware version No. are returned to the host once the storage process is completed normally.

## 2. DSP host I/F specifications

Access from the host to the DSP is performed via the PCS-5000/5000P series I/O port.

I/O port address : 138H (formerly DSP-A)
13AH (formerly DSP-B)
I/O data width : 8 bits

- Host data write register (OUT)

| bit7 | bit6 | bit5 | bit4 | bit3 | bit2 | bit1 | bit0 |
|---|---|---|---|---|---|---|---|
|  | HAB | $\overline{\text{RDACK}}$ | $\overline{\text{WRREQ}}$ | BNO3 | BNO2 | BNO1 | BNO0 |

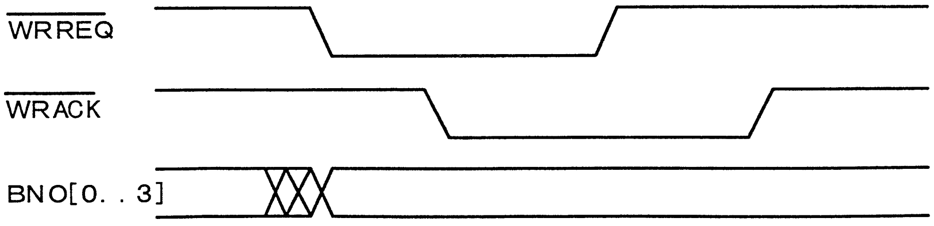
bit 0-3 : Host write data (4 bit-Nibble)
bit 4 : Host data write request (1.. Idle, 0.. Request)
bit 5 : DSP data read ACK (1.. Idle, 0.. ACK)
bit 6 : Host data write enable bit (1.. Enable, 0.. Disable)

- Host data read register (IN)

| bit7 | bit6 | bit5 | bit4 | bit3 | bit2 | bit1 | bit0 |
|---|---|---|---|---|---|---|---|
| BONDET |  | $\overline{\text{RDREQ}}$ | $\overline{\text{WRACK}}$ | BNI3 | BNI2 | BNI1 | BNI0 |

bit 0-3 : DSP read data (4 bit-Nibble)
bit 4 : DSP data read request (1.. Idle, 0.. Request)
bit 5 : Host data write ACK (1.. Idle, 0.. ACK)

Example of host data write timing



### 3. Operations during BONDING connections

The operations of the IF-583 board during BONDING connection are described below. The command communication between the host and the DSP when a call is issued at 384k bits/s (from the BONDING call request upto acquiring of the DN information) is shown as an example in Fig. 4.

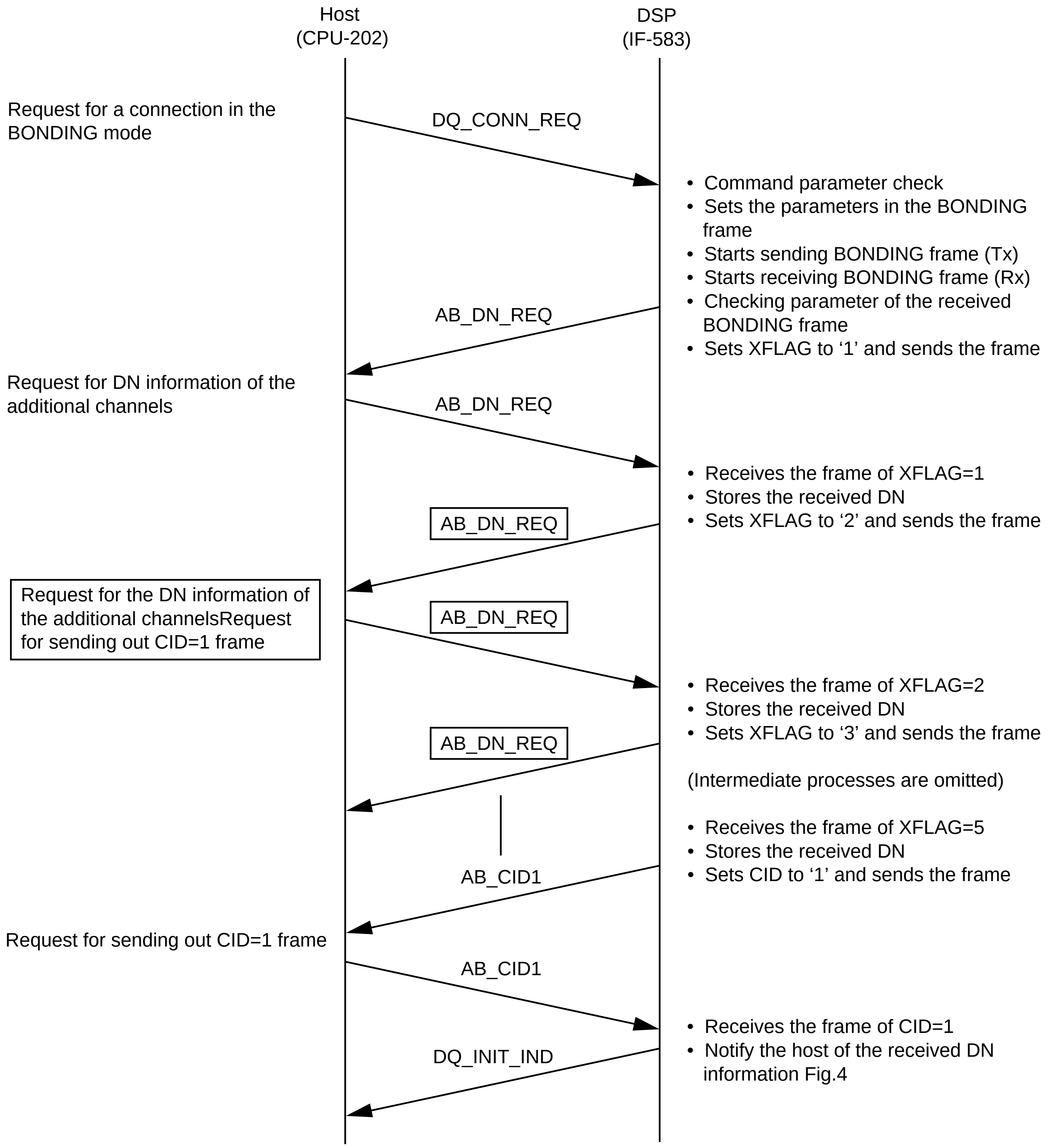

Host
(CPU-202)
DSP
(IF-583)
Request for a connection in the BONDING mode
DQ_CONN_REQ
• Command parameter check
• Sets the parameters in the BONDING frame
• Starts sending BONDING frame (Tx)
• Starts receiving BONDING frame (Rx)
• Checking parameter of the received BONDING frame
• Sets XFLAG to ‘1’ and sends the frame
AB_DN_REQ
Request for DN information of the additional channels
AB_DN_REQ
• Receives the frame of XFLAG=1
• Stores the received DN
• Sets XFLAG to ‘2’ and sends the frame
AB_DN_REQ
Request for the DN information of the additional channelsRequest for sending out CID=1 frame
AB_DN_REQ
• Receives the frame of XFLAG=2
• Stores the received DN
• Sets XFLAG to ‘3’ and sends the frame
AB_DN_REQ
(Intermediate processes are omitted)
• Receives the frame of XFLAG=5
• Stores the received DN
• Sets CID to ‘1’ and sends the frame
AB_CID1
Request for sending out CID=1 frame
AB_CID1
• Receives the frame of CID=1
• Notify the host of the received DN information Fig.4
DQ_INIT_IND

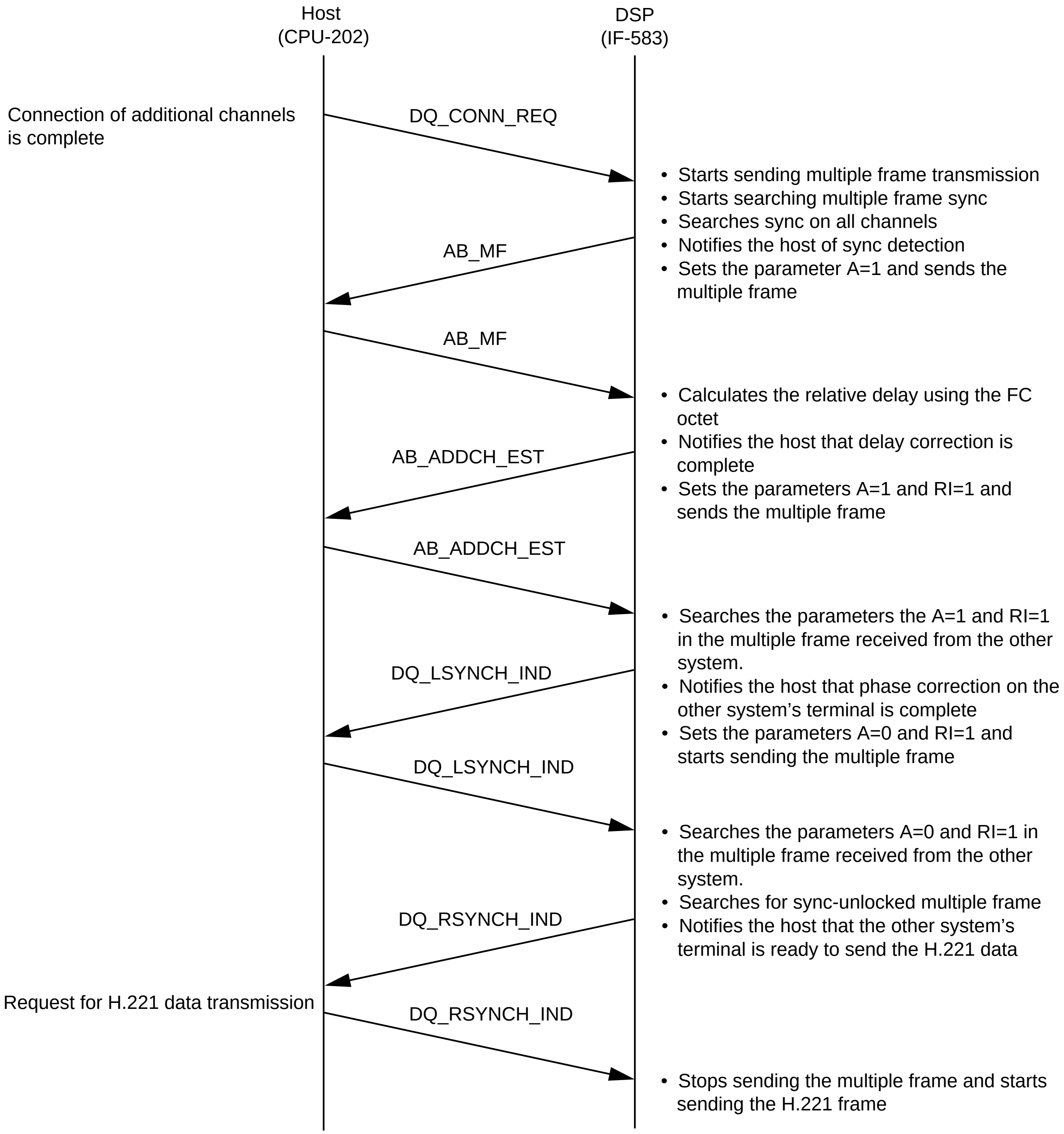
Fig. 4

When a request for a connection in the BONDING mode is issued, the host issues the DQ_CONN_REQ (11611F) command for the IF-583 DSP. When this command reaches, the DSP analyzes and checks the parameters of this command. The DSP inserts the connection parameters in the BONDING frame, approves the send/receive interrupt for the serial controller, and starts transmission of the BONDING frame. The BONDING frame to be sent consists of 16 octet cycle data strings (FE, 81, 81, F9, B1, BF, 81, 81, FF, FF, FF, FF, FF, FF, FF, FF). At the same time as BONDING frame transmission is started, the DSP starts searching the BONDING frame from the other system.

Once the BONDING frame from the other system is detected, DSP checks the respective parameters contained in the frame. If more of the DN information is necessary, the DSP issues the AB_DN_REQ (A16101) command to the host in order to indicate start of the acquisition of the DN information. The DSP sets the XFLAG=1 parameter in the transmission frame. The frame to be transmitted consists of {FE, 81, xx, F9, B1, BF, 81, 81, C1, FF, FF, FF, FF, FF, FF, FF}. The host returns an acknowledge (ACK) in response to the AB_DN_REQ command. If the XFLAG=1 parameter is set in the frame that is received from the other system, the DN information is stored in the internal memory and the XFLAG=2 parameter is set in the transmission frame. When the DN information up until XFLAG=5 is acquired in the same way, CID=1 is set to indicate that DN information exchange has finished, and the frame is then transmitted. The DSP waits for CID=1 parameter of the other system. It then issues the AB_CID1 (C1F) command to the host to indicate that DN information exchange with the other system is completed. The host returns an acknowledgment (ACK) in response to the AB_CID1 command. Once CID=1 is confirmed in the frame of other system, the DQ_INIT_IND (161aaaaaaabb...fffffF) command requesting connection of an additional channel request is issued to the host. The DN information selected through negotiation will be inserted into bbbbbbb,...,fffffff.

The host starts connection of an additional channel using the DN information acquired from the DSP. Once connection of the additional channel is completed, the DQ_CONN_REQ (11611F) command is issued to the DSP. The DSP then starts a multiple frame transmission with all channels including the additional channel. At the same time, the DSP starts searching the multiple frames that are received from the other system. Once the DSP detects the sync code in the respective channels, the DSP sets it in A=1 of the CRC octet, and transmits the multiple frame. When the sync code of all channels are detected, the DSP issues the AB_MF (D1F) command to the host. The DSP then calculates the relative delay for all channels based on the FC octet values. When the delay is calculated for all channels, the RI=1 parameter is set and multiple frame transmission is started. The DSP issues the AB_ADDCH_EST (EF) command to the host to indicate that phase correction between channels is completed. At the same time, once the RI=1 parameter is detected in all channels of the frame received from the other system, the DSP issues the DQ_LSYNCH_IND (61F) command to the host.

The DSP sets the parameter A=0 and sends the multiple frame to indicate that the H.221 data is ready for transmission. At the same time, the DSP searches for the parameter A=0 in the multiple frame that is received from the other system. If A=0 is detected or multiple frame sync is lost, the DQ_RSYNCH_IND (7F) command is issued to the host to request data transmission of H.221. The DSP then halts the transmission of the multiple frame and starts to transmit the H.221 frame data received from the VCP. The delay between channels in the data received from the other system's terminal is corrected and the data then sent to the VCP. An example of the communications between the host and the DSP starting from connection of an additional channel up until the transmission of H.221 data is shown in Fig.5.


Host
(CPU-202)
DSP
(IF-583)
DQ_CONN_REQ
AB_MF
AB_MF
AB_ADDCH_EST
AB_ADDCH_EST
DQ_LSYNCH_IND
DQ_LSYNCH_IND
DQ_RSYNCH_IND
DQ_RSYNCH_IND

Connection of additional channels is complete

- Starts sending multiple frame transmission
- Starts searching multiple frame sync
- Searches sync on all channels
- Notifies the host of sync detection
- Sets the parameter A=1 and sends the multiple frame

- Calculates the relative delay using the FC octet
- Notifies the host that delay correction is complete
- Sets the parameters A=1 and RI=1 and sends the multiple frame

- Searches the parameters the A=1 and RI=1 in the multiple frame received from the other system.
- Notifies the host that phase correction on the other system's terminal is complete
- Sets the parameters A=0 and RI=1 and starts sending the multiple frame

- Searches the parameters A=0 and RI=1 in the multiple frame received from the other system.
- Searches for sync-unlocked multiple frame
- Notifies the host that the other system's terminal is ready to send the H.221 data

Request for H.221 data transmission

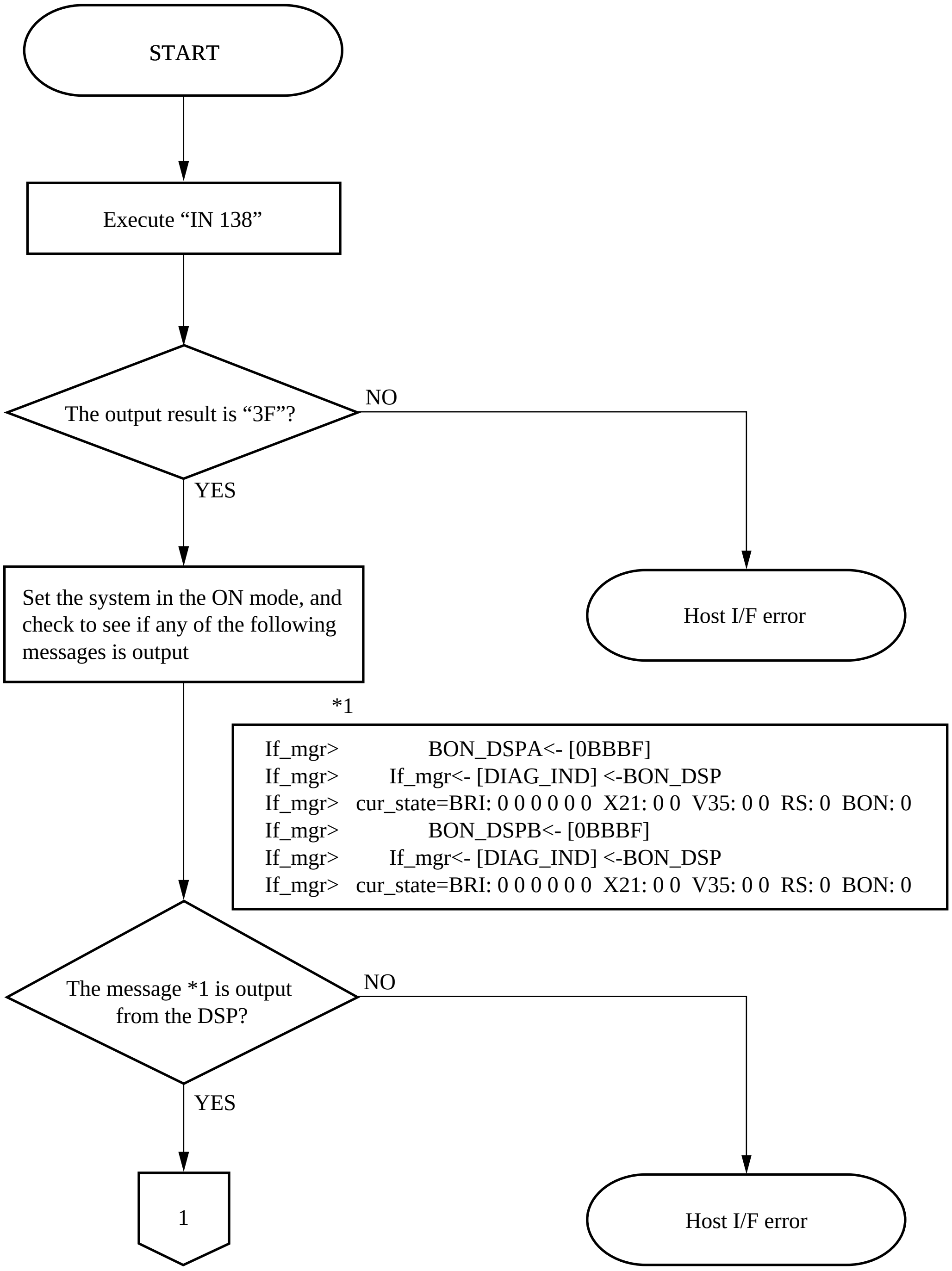
- Stops sending the multiple frame and starts sending the H.221 frame

Fig. 5

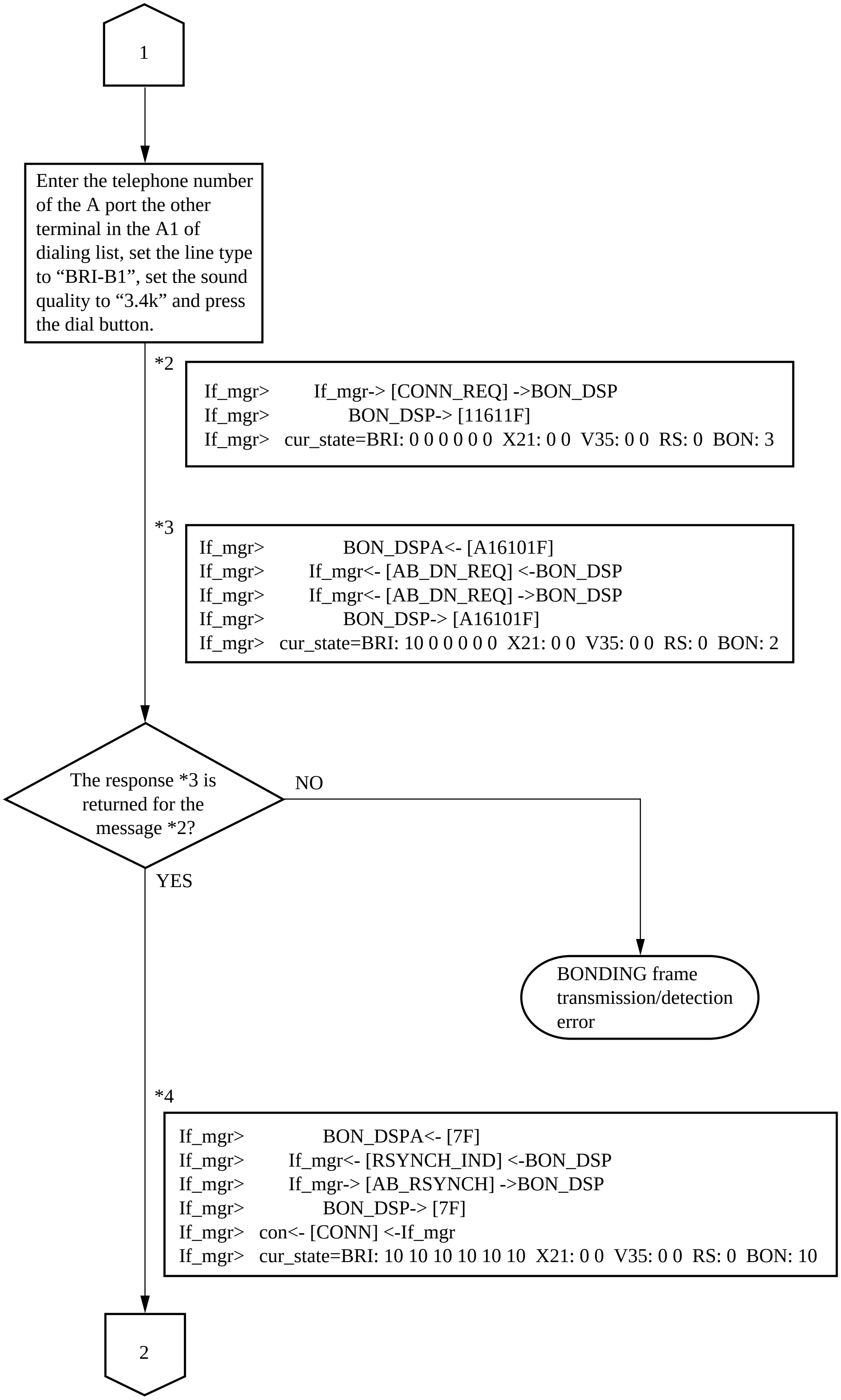
## 3-20. IF-583 BOARD TROUBLESHOOTING

### [Required tools and equipment]

| | |
|---|---|
| PCS-5000/5000P series (system software Ver.5.05 or higher) | 2 sets |
| Terminal emulator (Windows 95 Hyper Terminal, etc.) | |
| RS-232C cross cable | |
| ISDN communication line (or telephone exchange simulator) | 6 lines |
| Oscilloscope | |


START
Execute “IN 138”
The output result is “3F”?
NO
YES
Host I/F error
Set the system in the ON mode, and check to see if any of the following messages is output
*1
The message *1 is output from the DSP?
NO
YES
1
Host I/F error

```
If_mgr>              BON_DSPA<- [0BBBF]
If_mgr>        If_mgr<- [DIAG_IND] <-BON_DSP
If_mgr>   cur_state=BRI: 0 0 0 0 0 0  X21: 0 0  V35: 0 0  RS: 0  BON: 0
If_mgr>              BON_DSPB<- [0BBBF]
If_mgr>        If_mgr<- [DIAG_IND] <-BON_DSP
If_mgr>   cur_state=BRI: 0 0 0 0 0 0  X21: 0 0  V35: 0 0  RS: 0  BON: 0
```



1
The response *3 is returned for the message *2?
NO
YES
BONDING frame transmission/detection error
2

Enter the telephone number of the A port the other terminal in the A1 of dialing list, set the line type to “BRI-B1”, set the sound quality to “3.4k” and press the dial button.

*2

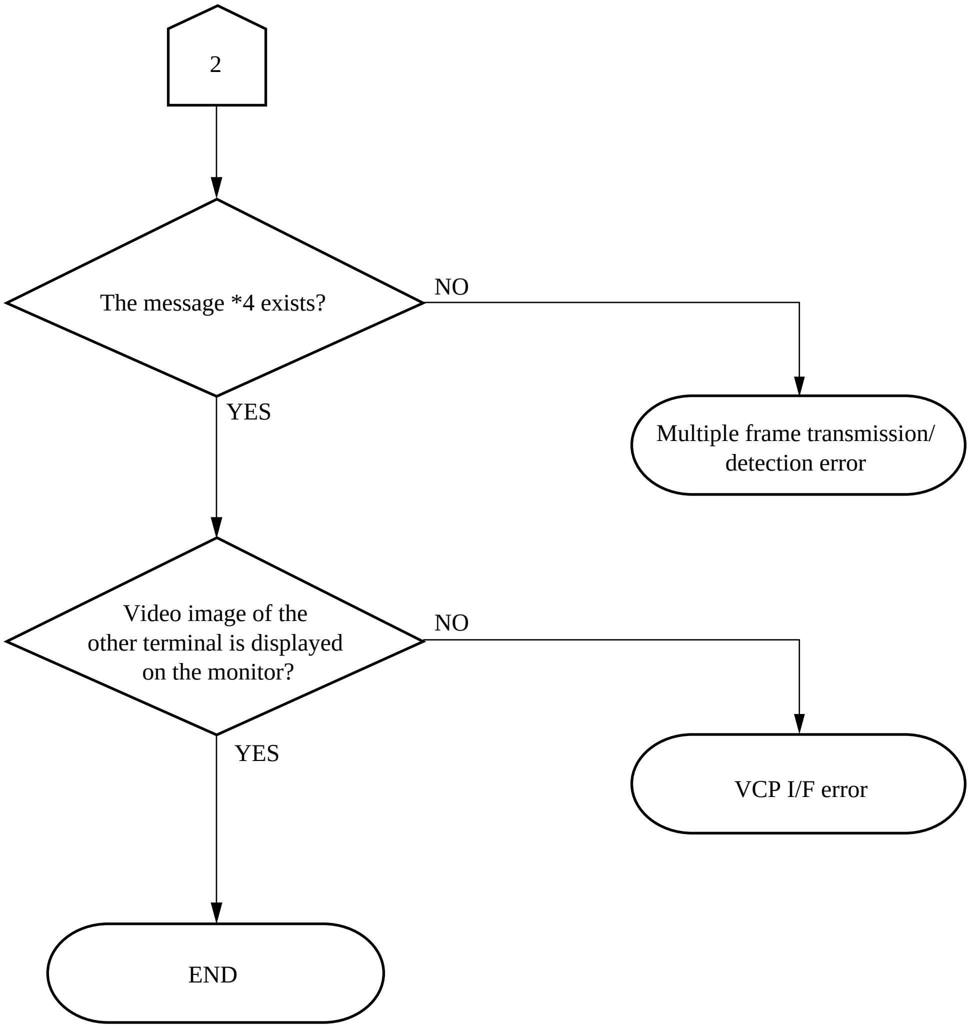
```
If_mgr>        If_mgr-> [CONN_REQ] ->BON_DSP
If_mgr>              BON_DSP-> [11611F]
If_mgr>   cur_state=BRI: 0 0 0 0 0 0  X21: 0 0  V35: 0 0  RS: 0  BON: 3
```

*3

```
If_mgr>              BON_DSPA<- [A16101F]
If_mgr>        If_mgr<- [AB_DN_REQ] <-BON_DSP
If_mgr>        If_mgr<- [AB_DN_REQ] ->BON_DSP
If_mgr>              BON_DSP-> [A16101F]
If_mgr>   cur_state=BRI: 10 0 0 0 0 0  X21: 0 0  V35: 0 0  RS: 0  BON: 2
```

*4

```
If_mgr>              BON_DSPA<- [7F]
If_mgr>        If_mgr<- [RSYNCH_IND] <-BON_DSP
If_mgr>        If_mgr-> [AB_RSYNCH] ->BON_DSP
If_mgr>              BON_DSP-> [7F]
If_mgr>   con<- [CONN] <-If_mgr
If_mgr>   cur_state=BRI: 10 10 10 10 10 10  X21: 0 0  V35: 0 0  RS: 0  BON: 10
```

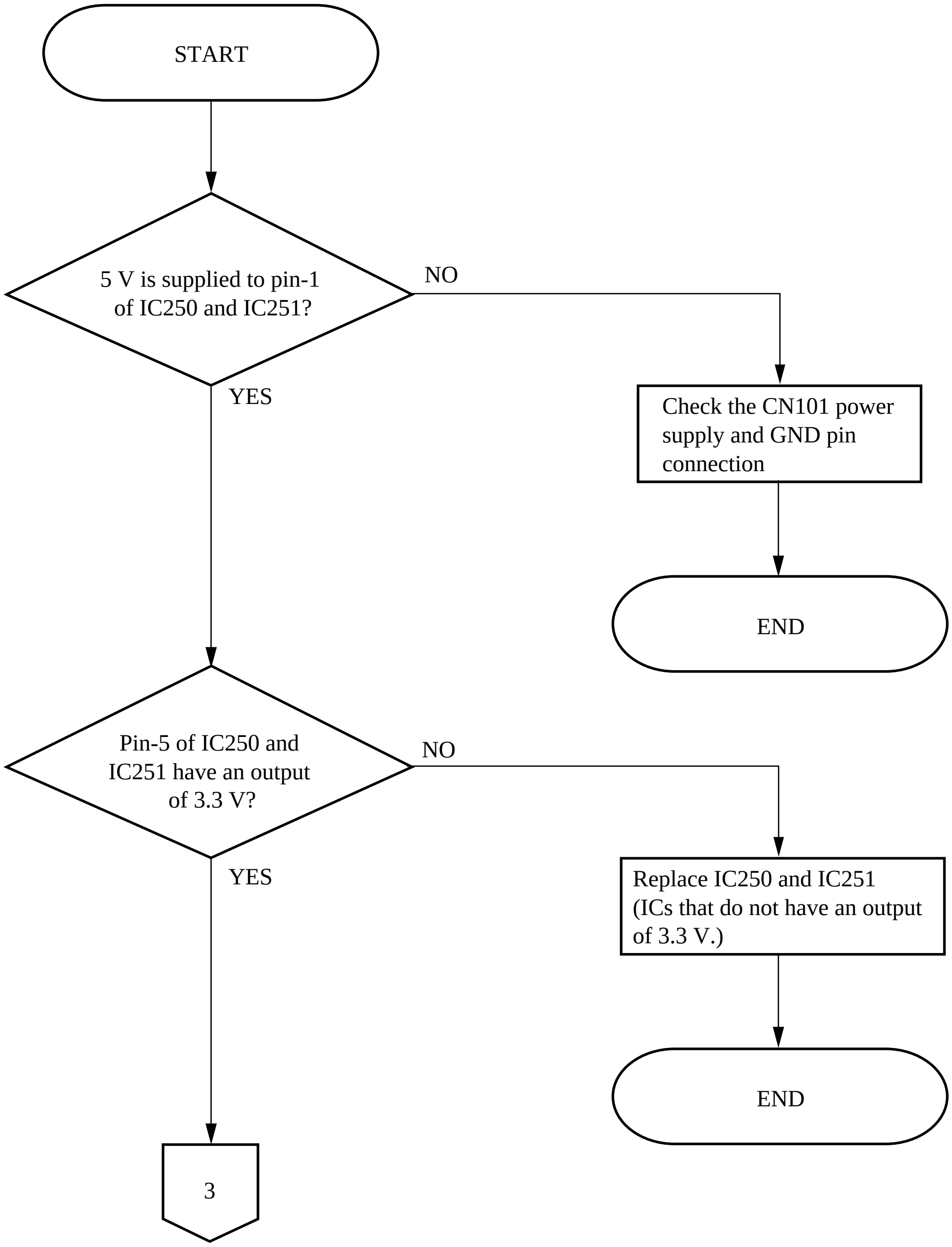

2
The message *4 exists?
NO
Multiple frame transmission/
detection error
YES
Video image of the
other terminal is displayed
on the monitor?
NO
VCP I/F error
YES
END

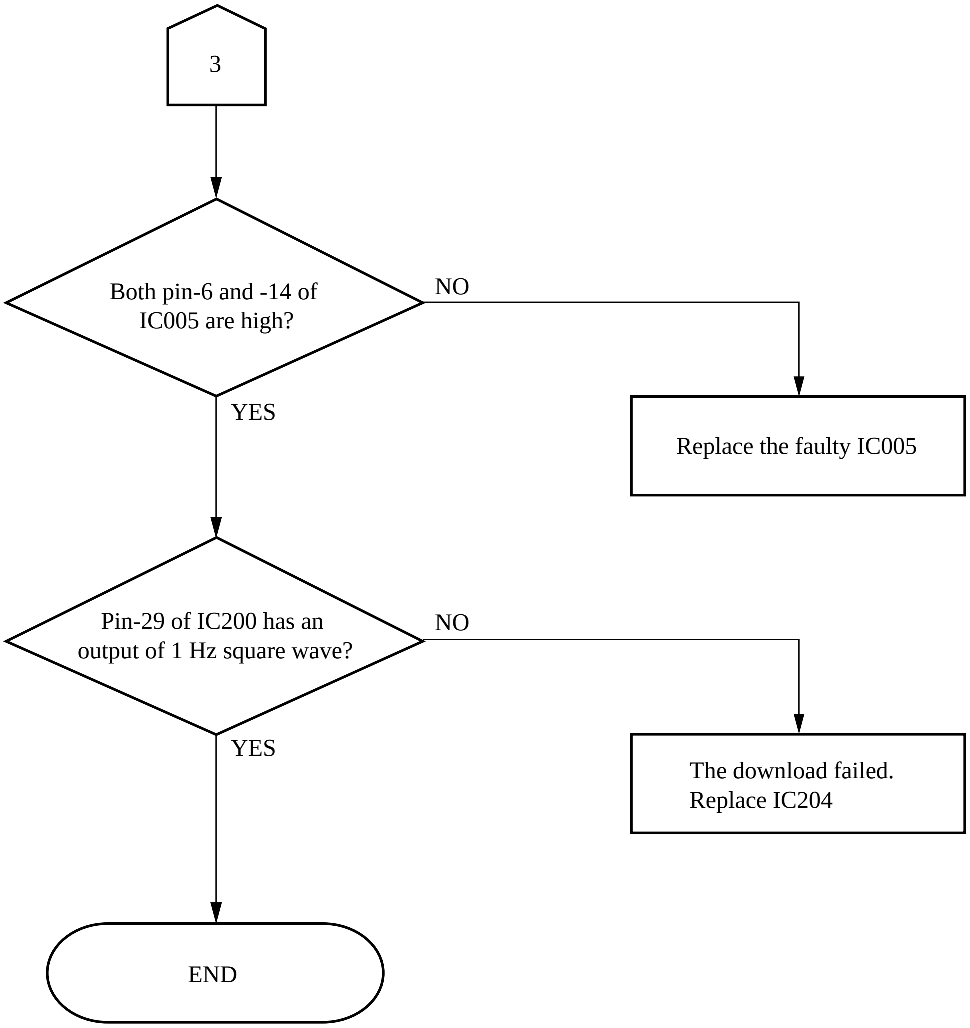
**[Remedial measures for errors]**

- Host I/F error

  Cause : Downloading of the DSP program code failed or a faulty IC exists in the I/F between the DSP and host.

  Related devices : IC200, IC201, IC202, IC203, IC204, IC001, IC002, IC022, CN101


START
5 V is supplied to pin-1 of IC250 and IC251?
NO
YES
Check the CN101 power supply and GND pin connection
END
Pin-5 of IC250 and IC251 have an output of 3.3 V?
NO
YES
Replace IC250 and IC251 (ICs that do not have an output of 3.3 V.)
END
3

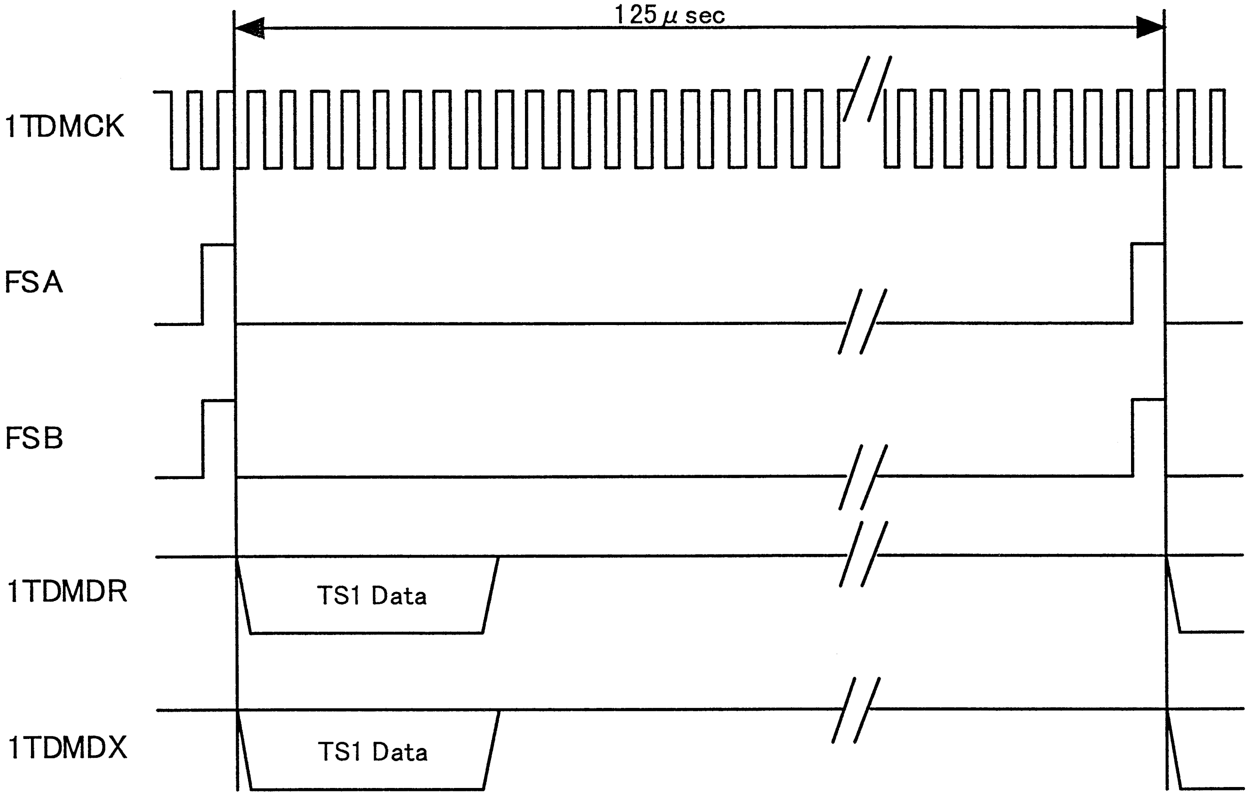

3
Both pin-6 and -14 of IC005 are high?
NO
Replace the faulty IC005
YES
Pin-29 of IC200 has an output of 1 Hz square wave?
NO
The download failed. Replace IC204
YES
END

- BONDING frame transmission/detection error

  Cause : Faulty DSP serial I/F

  Related devices : IC005, IC006, IC008, IC200

The relationship between 1TDMCK (CL005), FSA (CL009), FSB (CL008), 1TDMDX (CL003) and 1TDMDR (CL004) during normal operations is shown in the diagram below.



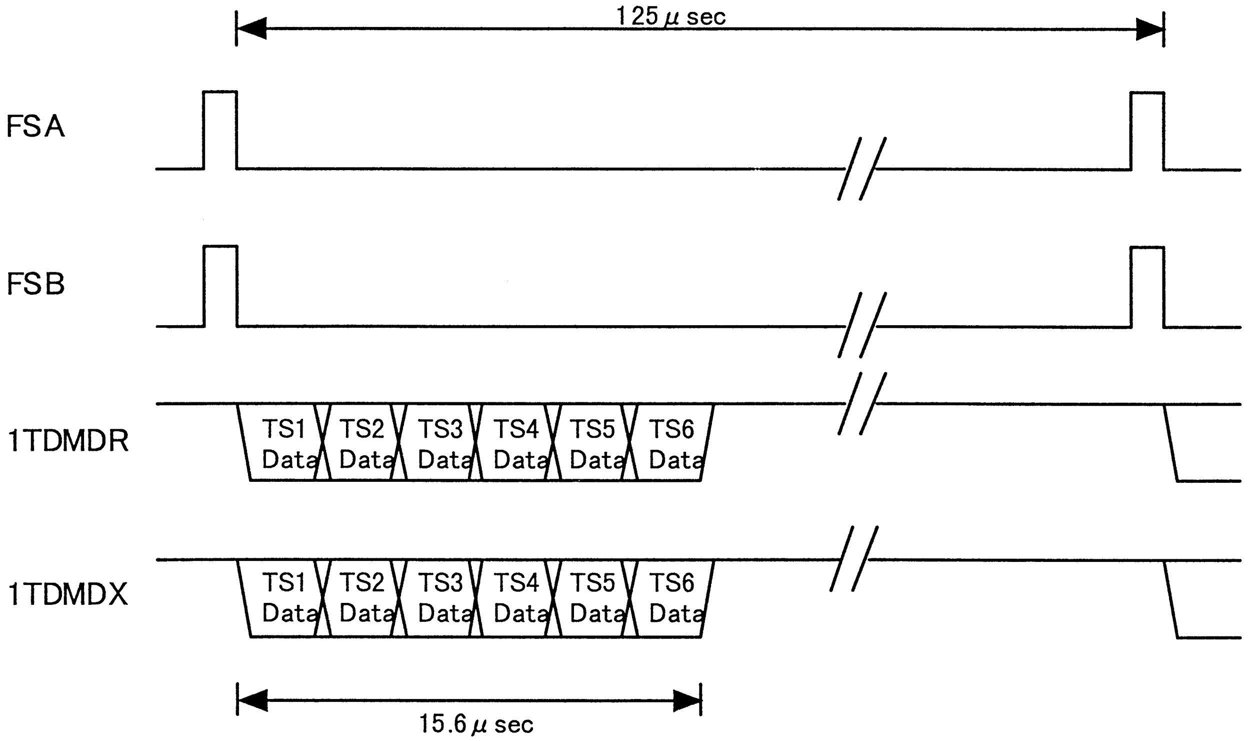
| | | |
|---|---|---|
| FSA, FSB clock fault | → | Replace IC008 |
| 1TDMCK clock fault | → | check the X001 output and the IC006 TDMCK (117) output |
| 1TDMDR data fault | → | Check the input of IC006 RBA1 (85), CK8K1 (82) and CK64K1 (83) |
| 1TDMTX data fault | → | Replace IC200 |

- Multiple frame transmission/detection error

  Cause : Faulty DSP serial I/F or faulty external SRAM IC

  Related devices : IC005, IC006, IC008, IC200. IC201, IC202, IC203

The relationship between FSA, FSB, 1TDMDR and 1TDMDX during normal operations is shown in the diagram below.


125 μ sec
FSA
FSB
1TDMDR
1TDMDX
TS1 Data
TS2 Data
TS3 Data
TS4 Data
TS5 Data
TS6 Data
15.6 μ sec

1TDMDR data fault → Check the input of IC006 RBA [1..3], RBB [1..3], CLK8K [1..3] and CLK64K [1..3]

1TDMDX data fault → Replace IC201, IC202 and IC203

- VCP I/F error

  Cause : Faulty I/F between the CVP and DSP

  Related devices : IC005, IC006, IC200, IC201, IC202, IC203, CN101

H.221 cannot be synchronized → Check the input of 2TDMDX (CL002) and 2TDMDR (CL001)

The image has a blue background → Replace IC201, IC202 and IC203

## 3-21. OUTLINE OF DAD-33/33P BOARD OPERATION

The video signal flow of the PCS-5100/5100P is shown in Fig. 3-7-1.
Overall block diagram of the DAD-33/33P board is shown in Fig. 3-21-1.

### 3-21-1. Outline of the DAD-33/33P Board

The DAD-33/33P (PCS-G510/P) board is an optional circuit board that displays the human portrait, still picture/document data on display in the PCS-5100/3 and PCS-5100P/3, and also fetches and displays the PC (personal computer) data. This is the successor of PCS-G500/P. The PCS-G500/P can be installed to both of PCS-5100/3 and PCS-5100P/3, and also into the previous models (i.e., PCS-5000, PCS-5000P, PCS-5100/1, PCS-5100P/1 and PCS-5100P/2). However, the PCS-G510/P can be installed into PCS-5100/3, PCS-5100P/3 and the succeding models, only and cannot be installed to the previous models.
The DAD-33/33P board performs the following two signal processings.

1) Converts the RGB signal (VGA and SVGA format) to the Y, U, V digital signals, and then scan-converts the Y, U, V digital signals to the NTSC/PAL format that is sent to the VPR-019 board.
2) Converts Y, U, V digital signals that is supplied from the VPR-019 board, to the Y, C signals of the NTSC/PAL signal and sends them to the external devices.

At the input side of the DAD-33/33P board, the RGB signal of the externally input VGA and SVGA are converted to the Y, U, V signals by the matrix circuit. These Y, U, V signals are converted to the digital signals by the A/D converter, and then converted to the NTSC/PAL format by the scan converter. These Y, U, V signals take the two paths. One output is sent to the VPR-019 board while the other output is returned here and is output to the encoder block of the DAD-33/33P board. The clock signal that are synchronized the input RGB signal is generated, the horizontal sync signal and vertical sync signals are detected and are output to the VPR-019 board. The RGB input signals that the DAD-33/33P board can support, are the VGA (640×480) signal that has the refresh rate of 60, 72, 75 and 85 Hz, and the SVGA (800×600) signal that has the refresh rate of 56, 60, 72 and 75 Hz.
At the output side of the DAD-33/33P board, either one of the input signals is selected among the input signals such as the input signal from the VPR-019 board, the signal that is returned by the scan converter of the input block and the menu display signal that is input from the DAD-017/017P board. Any one signal or combination of the two input signals is selected as desired and converted to the digital Y, U, V signals. These digital Y, U, V signals are passed through the encoder + D/A converter so that the analog Y, C signals (NTSC, PAL) are created and output to the external devices. At the same time, the input RGB signals are amplified and directly output through a 75-ohm driver in order to display them on monitor.
The various controls such as mode selection of the DAD-33/33P board are not only performed by the CPU-202 board through the DAD-017/017P board, but also performed by the DIP switches on the DAD-017/017P board.

### 3-21-2. Video Decoder Block (schematic diagram 1/8)

In the conventional DAD-018/018P board (PCS-G500/P), the NTSC or the PAL signal that is input from the DAD-017/017P board is decoded and from which the clock signal for AD conversion is generated. But this circuit is deleted in the DAD-33/33P board.
All of the signal processing are performed in the DAD-017/017P board.

### 3-21-3. RGB → YUV Conversion Block (schematic diagram 2/8)

The RGB signals of the VGA and SVGA that are input from CN3, are converted to the Y, U and V signals by the matrix circuit. This conversion circuit consists of the discrete circuit (Q15 through Q39 and peripherals). The conversion is performed by the resistive addition and use of differential amplifiers.

Input signal to the conversion circuit is band-width limited by the two channel low-pass filters (FL2 to FL7) in order to prevent occurrence of aliasing during AD conversion. Since input signal varies in the wide frequency range of 31.5 kHz to 53.7 kHz, sampling frequency of the AD conversion also changes in the wide range of frequency accordingly. It requires that input frequency must pass through the two types of low-pass filter having different cut-off frequency. The low-pass filter consisting of FL2, FL3 and FL4 is prepared for low frequency range while the low-pass filter consisting of FL5, FL6 and FL7 is prepared for high frequency range. The two types of Y, U and V signals that are output from the respective low-pass filters, are sent to the AD conversion block. Either which of the two signals is selected by the selector of the AD converter block whereas the selector is controlled by the control signal whether the horizontal sync frequency is 40 kHz or higher or lower.

### 3-21-4. RGB Input Sync System (schematic diagram 3/8)

The horizontal sync and vertical sync signals of the VGA and SVGA that are input from CN3, are sent to CXA2016 (IC11). Polarity of the sync signals changes depending upon the formats of the input signal, however, the output sync signals from this IC are the sync signals of the high-active signal. The clamp pulse for AD conversion is generated by this IC.

The horizontal sync and vertical sync, polarity of which is unified to high-active by CXA2016 (IC11), are sent to ispLSI1016E (IC10) for detection of the input signal format. The horizontal sync signal is at the same time input to PLL circuit and also to the input signal detection circuit (74HC123 (IC14)). The vertical sync signal is sent directly to the scanning line conversion block. The clamp pulse that is output from IC11 is selected when input signal is present, and the horizontal sync that is regenerated by PLL is selected as clamp pulse when input signal is absent. The selected clamp pulse is controlled of its clamp pulse for a constant pulse with by 74HC221 (IC36), and is sent to the AD conversion block.

The input format detection circuit (IC11) detects the VGA/SVGA identification and the detection of input horizontal sync frequency if it is high/low (40 kHz or higher/or less). The identification signal output from the input format detection circuit is sent to the scanning line conversion block and is also used as the low-pass filter selection control signal for Y, U and V signals. The input format detection circuit (IC11) decodes the control signal that is supplied from the DAD-017/017P board and generates the controls signals such as selector signal for the video signal output block.

The horizontal sync output signal from IC11 is sent to PLL circuit via 74HC221 (IC36), where this signal is input to PLL IC TLC2932 (IC13). This IC has phase comparator, amplifier and VCO internally, and constitutes a PLL with the external frequency divider (IC16 to IC20). The PLL generates the clock signal that is used as the reference of the input signal system, for example AD conversion, and also re-generates the horizontal sync signal. The PLL uses the frequency dividing ratio of 770 because the clock signal frequency is 770 times of the input horizontal sync signal.

### 3-21-5. AD Conversion Block (schematic diagram 4/8)

The respective analog signals that are converted to the Y, U and V signals from the RGB signal of VGA and SVGA, are passed through the two types of low-pass filter that have different cut-off frequencies for suppressing the aliasing, and are input to the selector. This selector has nominally three inputs. However, because the video decode block is deleted, the remaining one input is left as no input. Selection of one input among the three inputs is controlled by the horizontal sync frequency high/low detector output of IC11 and the input select control signal that is supplied from the DAD-017/017P board. (However, during the D2 bypass mode, the “no-input” is not forcibly selected but the RGB input is selected.) Output of the selector is amplified by the video amplifier and is AD converted by CXD2302 (IC22, IC23, IC24). (8 bits)

CXD2302 itself has the clamp function. The external comparator (IC25) and analog switch (IC27) are connected to form a feedback clamp circuit which clamps the blanking level automatically to the specified level. The clamp level is digitally 10H for the Y-signal and is 80H for the U, V signals.

The sampling frequency for the Y-signal is 770 times of the input horizontal sync frequency, and that for the U, V signals is 385 times i.e., half of that for the Y-signal, of the input horizontal sync frequency. (For example, when VGA 60 Hz is input: 24.2 MHz, when SVGA 75 Hz is input: 36.1 MHz) The clock signal frequency is maintained to be an integer multiple of the input sync signal frequency to be used for AD conversion, is written into the memory of the scanning line conversion block, and is read from the memory using the NTSC or PAL clock (13.5 MHz) signal. Thus the horizontal picture size (number of dots in horizontal direction) is kept to be an appropriate value after the video signal is converted to the NTSC or PAL signal regardless of the input format if it is VGA or SVGA format.

### 3-21-6. Scanning Line Conversion Block (Input Side) (schematic diagram 5/8)

The number of pixels in the horizontal direction is adjusted by PLL fixed the dividing ratio of the sampling frequency during AD conversion to convert the VGA and SVGA to NTSC or PAL signals. However, this scanning line conversion block performs the scanning line conversion by using the weighted addition between the two lines in the vertical direction.

The AD-converted U, V signals are time-base multiplexed by IC104, IC105, IC106 and IC109 so that they are formed into the 8-bit signal which is sent to the field memory (IC115, IC116).

Because the Y-signal and the U, V signals use the different sampling frequencies, the different low-pass filters are used before AD conversion. And amount delay due to AD conversion is different in these signals so that the delay time difference between the Y-signal and the U, V signals occurs and is minimized by passing the AD converted digital Y-signal only through a shift register (IC102). (Number of shift registers to be used is switched by the horizontal sync frequency high/low detection signal. (IC103)) Then the Y-signal is sent to the field memory (IC113, IC114). The clock signal, horizontal sync signal and the vertical sync signal that are generated by the sync system (input side) are passed thorough 74VHC244 (IC107) and 74VHC157 (IC108), and are input to the memory controller (ispLSI1032E: IC119) via IC109, IC110 and IC111. On the other hand, the horizontal sync signal that is regenerated by PLL, and the vertical sync signal which is synchronized with the horizontal sync signal are input to the memory controller (ispLSI1032E: IC119).

The field memory (IC113, IC114, IC115, IC116) is controlled by the timing pulse that is generated by the memory controller (IC119). The Y, U and V signals are written to the field memory (IC113, IC114, IC115, IC116) in synchronism with the sampling clock. This writing is performed into IC113/IC114 (Y) and IC115/IC116 (U, V) alternately every other horizontal line.

Reading from the field memory is controlled by the memory controller IC119, and is performed in synchronism with the clock (13.5 MHz) of NTSC and PAL (ITU-R601). This clock signal is the same as that of the sync system of the output side. The free-running clock (27 MHz) that is generated by the DAD-017/017P board is input through the VPR-019 board, and is frequency-divided by two. When the video data is read from the field memory, reading is performed in a way that some horizontal lines are read out sequentially, some horizontal lines are read out repeatedly while a horizontal line is skipped. The two outputs from the respectively field memories are sent to the weighted adder where the data is added while the coefficient to be multiplied is changed in every horizontal line. This coefficient is also controlled by the memory controller IC119. The added output is sent to the VPR-019 board via CN2.

### 3-21-7. Menu Signal Input Block (schematic diagram 6/8)

The menu signal that is multiplexed with the output video signal of the DAD-33/33P board, is generated by the DAD-017/017P board and is sent to this board with 4-bit data of Y, U and V signals respectively in synchronism with the 13.5 MHz clock of the output system. Among the Y, U and V signals, the U and V signals are deduced respectively to 1/2 by IC122 in order to match the signal format with other video signals, and then is time-multiplexed into single 4-bit signal by IC123. The U and V signals and the Y-signal that has passed through IC121 are the 4-bit signals and are super-imposed with other signals at the selector (IC126, IC127) as the higher 4-bit signal of the 8-bit data.

The YS signal that generates the timing for multiplexing the menu signal, is sent to ispLSI1016E (IC10) that is the input signal format detector and is at the same time the output selector controller. IC10 controls the output signal selector (IC126, IC127) using the information such as the control bit and blanking signal that are supplied from the I/O port of the DAD-017/017P board.

### 3-21-8. Sync System (Output Side) (schematic diagram 7/8)

The free-running clock (27 MHz) that is generated by the DAD-017/017P board, is input to the DAD-33/33P board via the VPR-019 board. This clock is input to the digital video encoder IC CXD1913Q (IC31) where it is frequency-divided by two and generates the 13.5 MHz clock. The VPR-019 board uses this clock as the reference and generates the horizontal sync signal, vertical sync signal and field identification signal that are input to this board. This board uses these sync signals as the reference and generates the sync timing (IC130, IC131, IC132, IC133) for the encoder IC CXD1913Q which outputs the video signal in synchronism with the input signal from the VPR-019 board. In other words, the VPR-019 board works as the master sync generator and this board is the slave circuit.
The sync signal of the output side, is output to the menu signal generator of the DAD-017/017P board where the sync signal is used as the reference of the menu signal to be displayed in the output of this board.

### 3-21-9. Encoder and DA Converter (schematic diagram 7/8)

Video signal encoding and DA conversion are performed by CXD1913Q (IC31).
The digital video signal (8 bits) that is selected by the selector (IC126, IC127) among the four inputs which are the input signal from the VPR-019 board, the input signal from AD converter, the black level signal for blanking and the menu signal, is input to this IC. The 27 MHz clock that is the reference of the output system, is input to this board while the horizontal sync, vertical sync and field identification signals that are generated by the VPR-019 board is input to this board where encoding is performed.
The internal parameters that set the NTSC/PAL selection, the field polarity, display during blanking period and others, are input from IC32 or IC33 through serial interface.
The digitally encoded video signal is converted by the DA converter inside the IC and is output as the analog Y and C signals.

### 3-21-10. Video Signal Output Block (schematic diagram 8/8)

The DA-converted Y and C signals pass through the low-pass filters to suppress occurrence of aliasing. The low-pass filters for Y and C signals have the same frequency response characteristics. The Y and C signals are amplified by video amplifier and 75-ohm driver, and are output to outside as “GRAPHICS Y/C OUT.”

### 3-21-11. RGB Signal Output Block (schematic diagram 8/8)

The R, G and G input signals that are amplified by video amplifier and 75-ohm driver are output to outside as “RGB MONITOR OUT” while the input H. sync and the V. sync signals are passed through and are directly output to outside as “RGB MONITOR OUT”, for the purpose of displaying the VGA and SVGA signals that are input to “RGB IN”, directly on monitor screen.

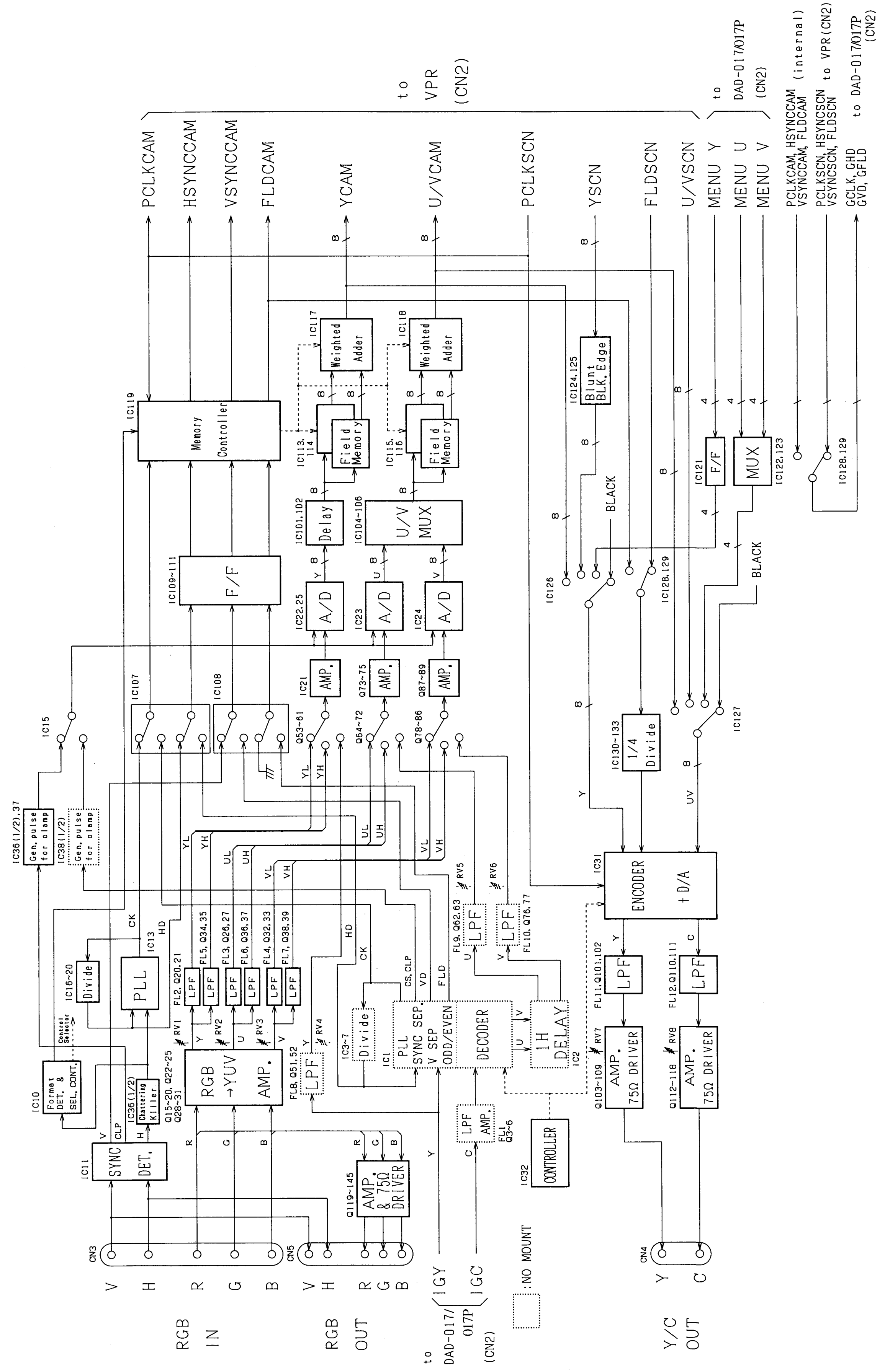

RGB IN
V
H
R
G
B
CN3
RGB OUT
V
H
R
G
B
CN5
to DAD-017/017P (CN2)
IGY
IGC
:NO MOUNT
Y/C OUT
Y
C
CN4
IC11 SYNC DET.
IC10 Format DET. & SEL. CONT.
Control Selector
IC36(1/2) Chattering Killer
IC36(1/2),37 Gen. pulse for clamp
IC38(1/2) Gen. pulse for clamp
IC15
IC16~20 Divide
IC13 PLL
CK
HD
CLP
Q15~20, Q22~25, Q28~31 RGB →YUV AMP.
RV1
RV2
RV3
RV4
FL2, Q20, 21 LPF
FL5, Q34, 35 LPF
FL3, Q26, 27 LPF
FL6, Q36, 37 LPF
FL4, Q32, 33 LPF
FL7, Q38, 39 LPF
YL
YH
UL
UH
VL
VH
FL8, Q51, 52 LPF
IC3~7 Divide
IC1 PLL SYNC SEP. V SEP ODD/EVEN DECODER
CS, CLP
VD
FLD
IC2 1H DELAY
FL1 Q3~6 LPF AMP.
IC32 CONTROLLER
FL9, Q62, 63 LPF
RV5
FL10, Q76, 77 LPF
RV6
IC107
IC108
Q53~61
Q64~72
Q78~86
IC21 AMP.
Q73~75 AMP.
Q87~89 AMP.
IC22, 25 A/D
IC23 A/D
IC24 A/D
IC109~111 F/F
IC101, 102 Delay
IC104~106 U/V MUX
IC113, 114 Field Memory
IC115, 116 Field Memory
IC119 Memory Controller
IC117 Weighted Adder
IC118 Weighted Adder
IC124, 125 Blunt BLK, Edge
BLACK
IC126
IC128, 129
IC127
IC130~133 1/4 Divide
IC31 ENCODER + D/A
FL11, Q101, 102 LPF
FL12, Q110, 111 LPF
Q103~109 AMP. 75Ω DRIVER
RV7
Q112~118 AMP. 75Ω DRIVER
RV8
Q119~145 AMP. & 75Ω DRIVER
IC121 F/F
IC122, 123 MUX
IC128, 129
8
4
PCLKCAM
HSYNCCAM
VSYNCCAM
FLDCAM
YCAM
U/VCAM
PCLKSCN
YSCN
FLDSCN
U/VSCN
to VPR (CN2)
MENU Y
MENU U
MENU V
to DAD-017/017P (CN2)
PCLKCAM, HSYNCCAM VSYNCCAM, FLDCAM (internal)
PCLKSCN, HSYNCSCN VSYNCSCN, FLDSCN to VPR (CN2)
GCLK, GHD GVD, GFLD to DAD-017/017P (CN2)

Fig. 3-21-1 DAD-33/33P Block diargam

## 3-22. DAD-33/33P BOARD TROUBLESHOOTING

### [Equipment required]

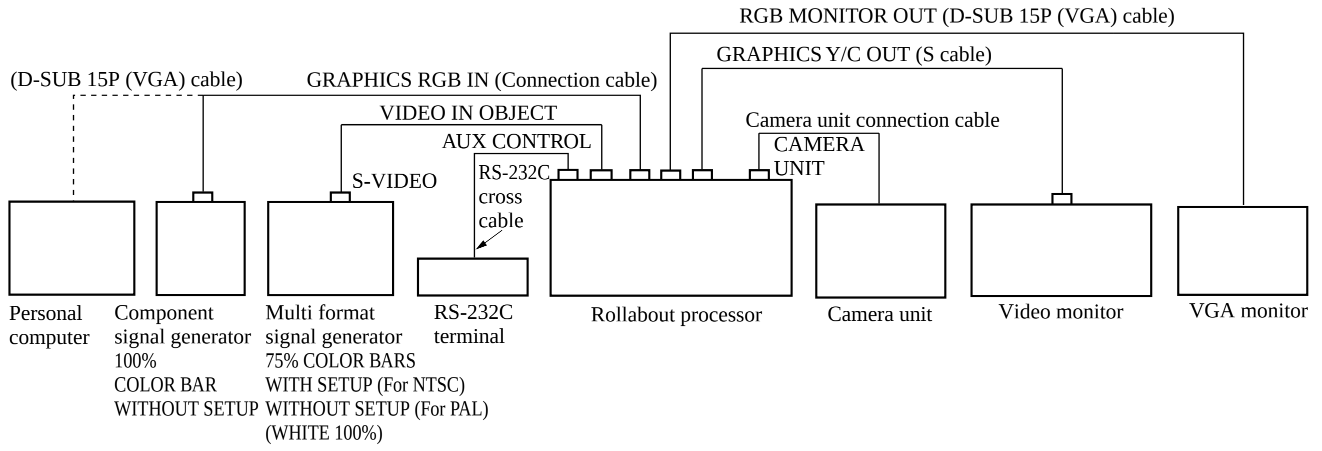
- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Audio unit (PCS-A500/A510)
  - Remote commander (PCS-R500)
- Signal generator (Tektronix TSG130A for NTSC, TSG131A for PAL or equivalent)
- Component signal generator (Tektronix TSG300, Leader LT1610A or equivalent)
- Personal computer (PC/AT compatible machine, 640×480 or 800×600)
- Oscilloscope
- Video monitor
- VGA monitor (multi-scan)
- Camera unit connection cable (supplied accessory)
- Audio unit connection cable (supplied accessory)

### [Service tools]

- VH-950 extension board (Sony part number: J-6389-500-A)
- Connection cable (Sony part number: 1-590-226-11)
- RS-232C terminal (PC/AT compatible machine with communication software “CCT”)
- RS-232C cross cable
- D-sub 15pins (VGA) cable (2 cables)
- S cable

### [Preparation]

1) Set up the PCS-5100/5100P system to the normal operating condition.
2) Insert the extension board to the slot of the DAD-33/33P board.
3) Insert the DAD-33/33P board to the extension board.
4) Make connection as shown below.
5) Start up the communication software “CCT” which is installed in the terminal. Turn on the main power of the PCS-5100/5100P system (enter the debug mode).
6) Turn on the main power from the remote commander (PCS-R500).

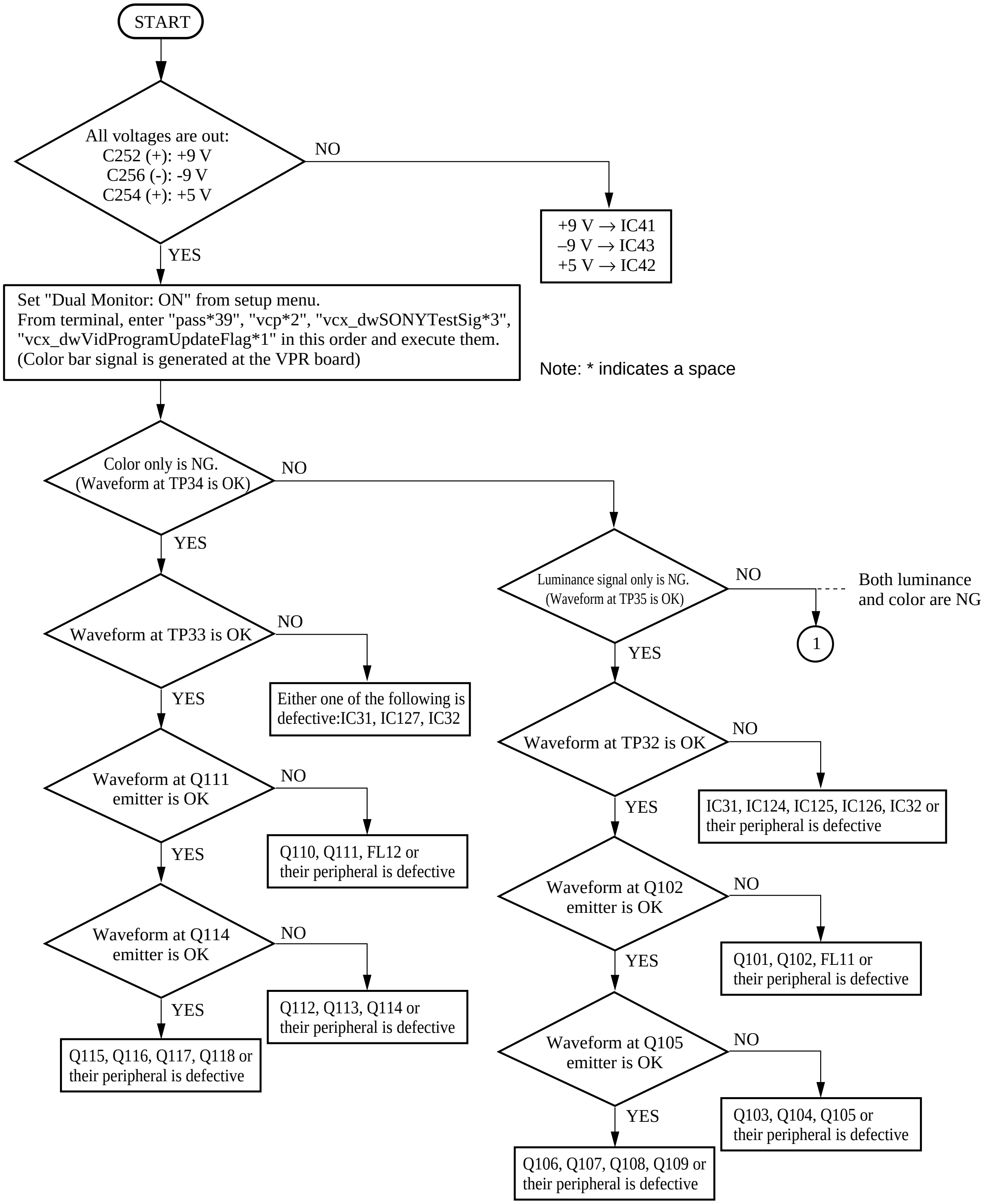

RGB MONITOR OUT (D-SUB 15P (VGA) cable)
GRAPHICS Y/C OUT (S cable)
(D-SUB 15P (VGA) cable)
GRAPHICS RGB IN (Connection cable)
VIDEO IN OBJECT
Camera unit connection cable
AUX CONTROL
CAMERA UNIT
S-VIDEO
RS-232C cross cable
Personal computer
Component signal generator 100% COLOR BAR WITHOUT SETUP
Multi format signal generator 75% COLOR BARS WITH SETUP (For NTSC) WITHOUT SETUP (For PAL) (WHITE 100%)
RS-232C terminal
Rollabout processor
Camera unit
Video monitor
VGA monitor

## 3-22-1. Flow Chart

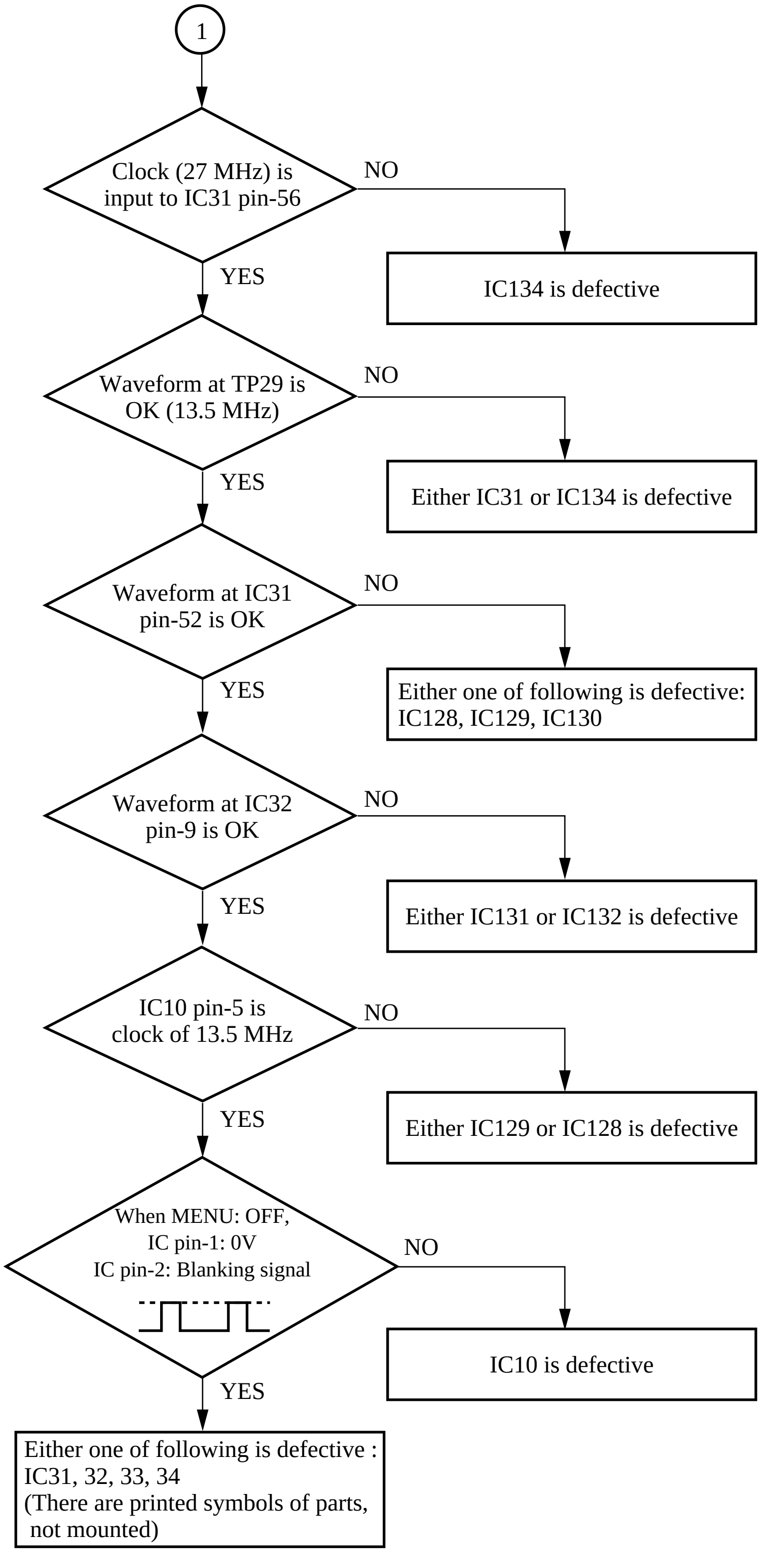
First, check which of the following four symptoms your trouble corresponds to, then proceed to the respective flow chart.

(Symptom 1: Page 3-147, Symptom 2: Page 3-149, Symptom 3: Page 3-153, Symptom 4: Page 3-154)

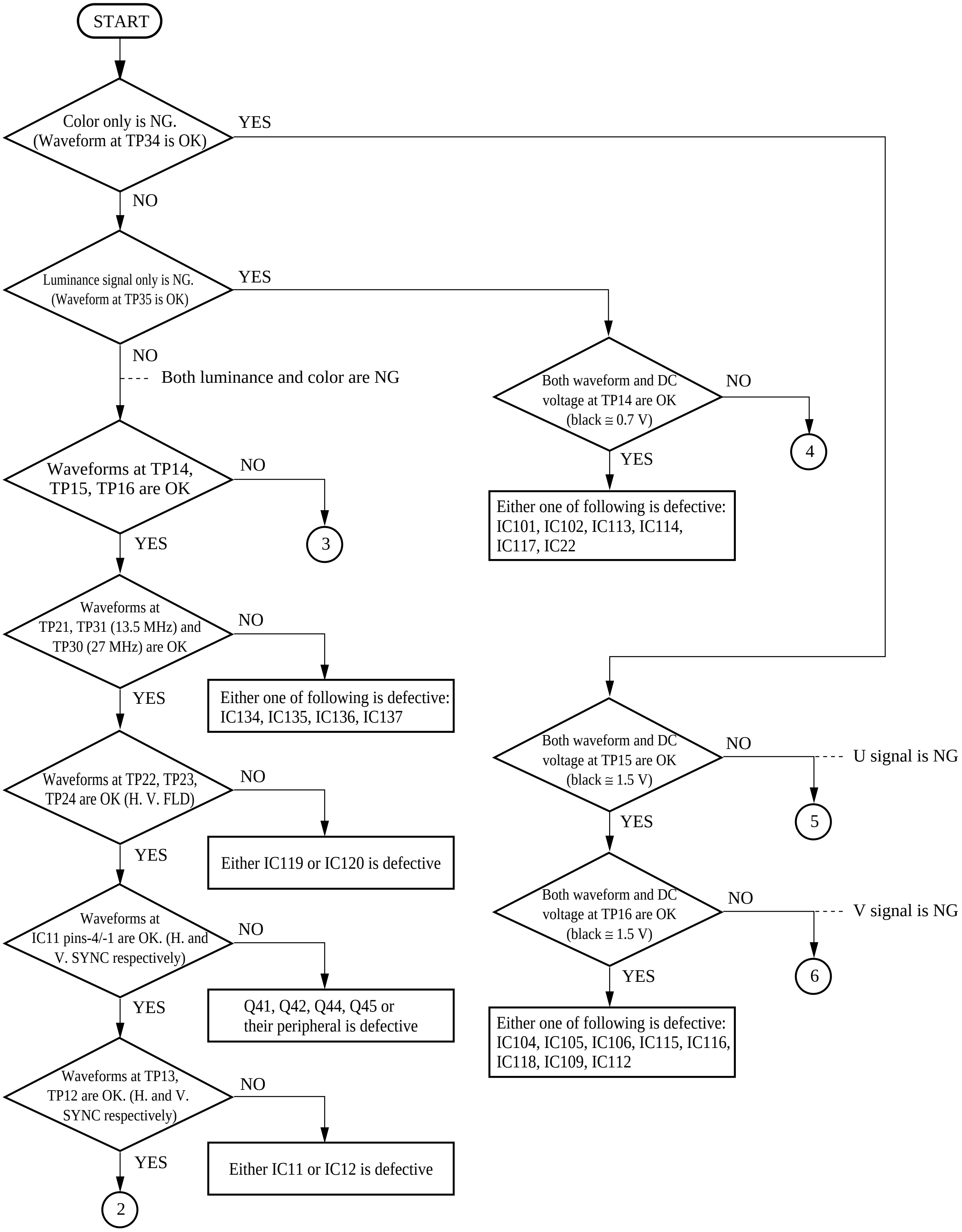
### 1. The GRAPHICS Y/C OUT display in dual mode is abnormal.
### (When an input is connected to either CAMERA UNIT or VIDEO IN (OBJECT) or VIDEO IN (AUX1) or VIDEO IN (AUX2))

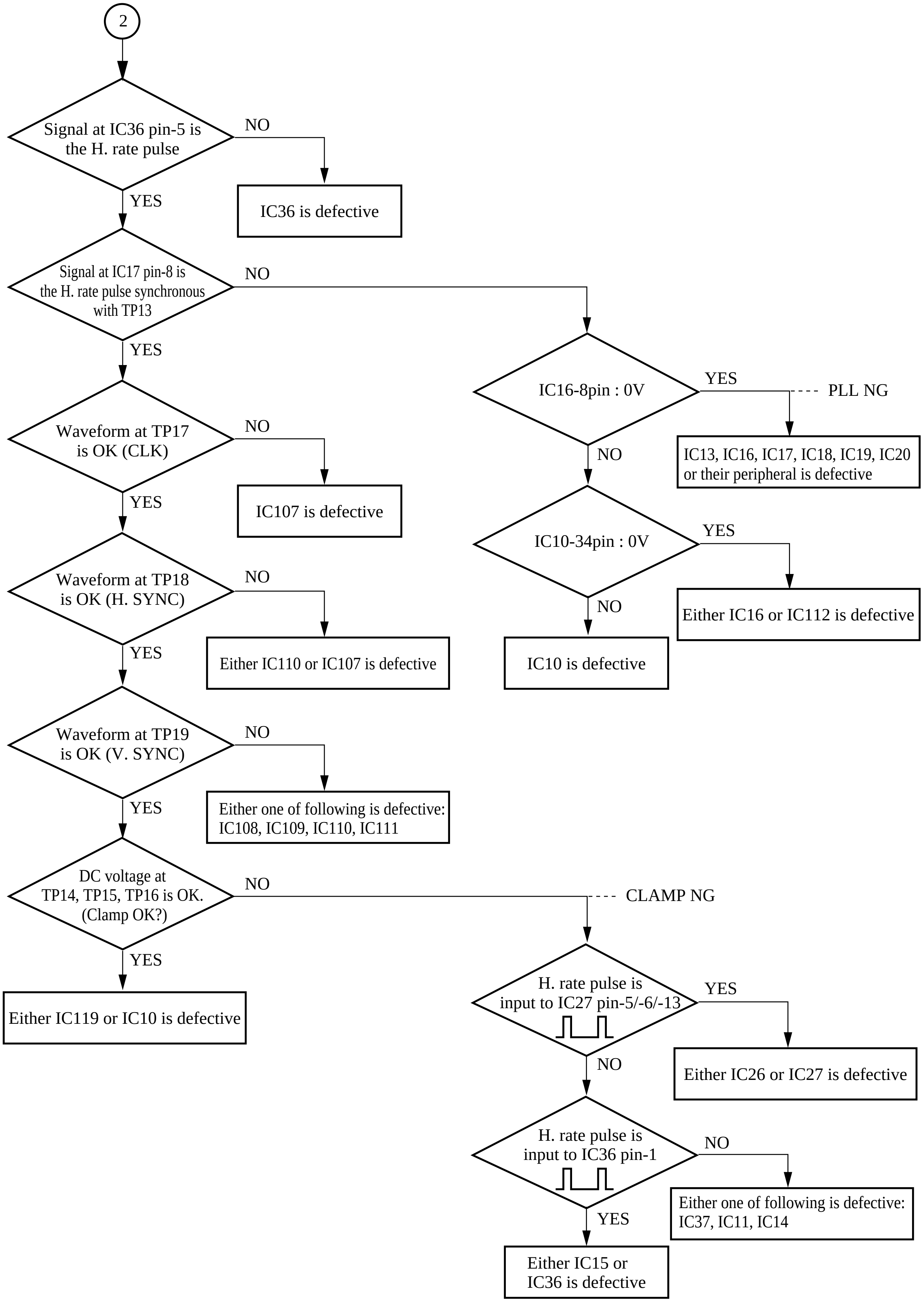

START
All voltages are out:
C252 (+): +9 V
C256 (-): -9 V
C254 (+): +5 V
NO
+9 V → IC41
–9 V → IC43
+5 V → IC42
YES
Set "Dual Monitor: ON" from setup menu.
From terminal, enter "pass*39", "vcp*2", "vcx_dwSONYTestSig*3", "vcx_dwVidProgramUpdateFlag*1" in this order and execute them.
(Color bar signal is generated at the VPR board)
Color only is NG.
(Waveform at TP34 is OK)
NO
YES
Luminance signal only is NG.
(Waveform at TP35 is OK)
NO
Both luminance and color are NG
1
Waveform at TP33 is OK
NO
Either one of the following is defective:IC31, IC127, IC32
YES
Waveform at Q111 emitter is OK
NO
Q110, Q111, FL12 or their peripheral is defective
YES
Waveform at Q114 emitter is OK
NO
Q112, Q113, Q114 or their peripheral is defective
YES
Q115, Q116, Q117, Q118 or their peripheral is defective
YES
Waveform at TP32 is OK
NO
IC31, IC124, IC125, IC126, IC32 or their peripheral is defective
YES
Waveform at Q102 emitter is OK
NO
Q101, Q102, FL11 or their peripheral is defective
YES
Waveform at Q105 emitter is OK
NO
Q103, Q104, Q105 or their peripheral is defective
YES
Q106, Q107, Q108, Q109 or their peripheral is defective

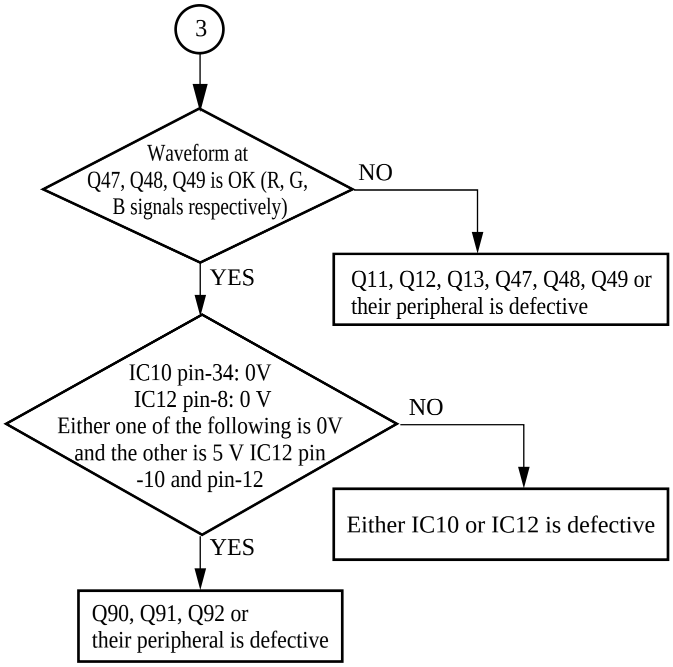
Note: * indicates a space

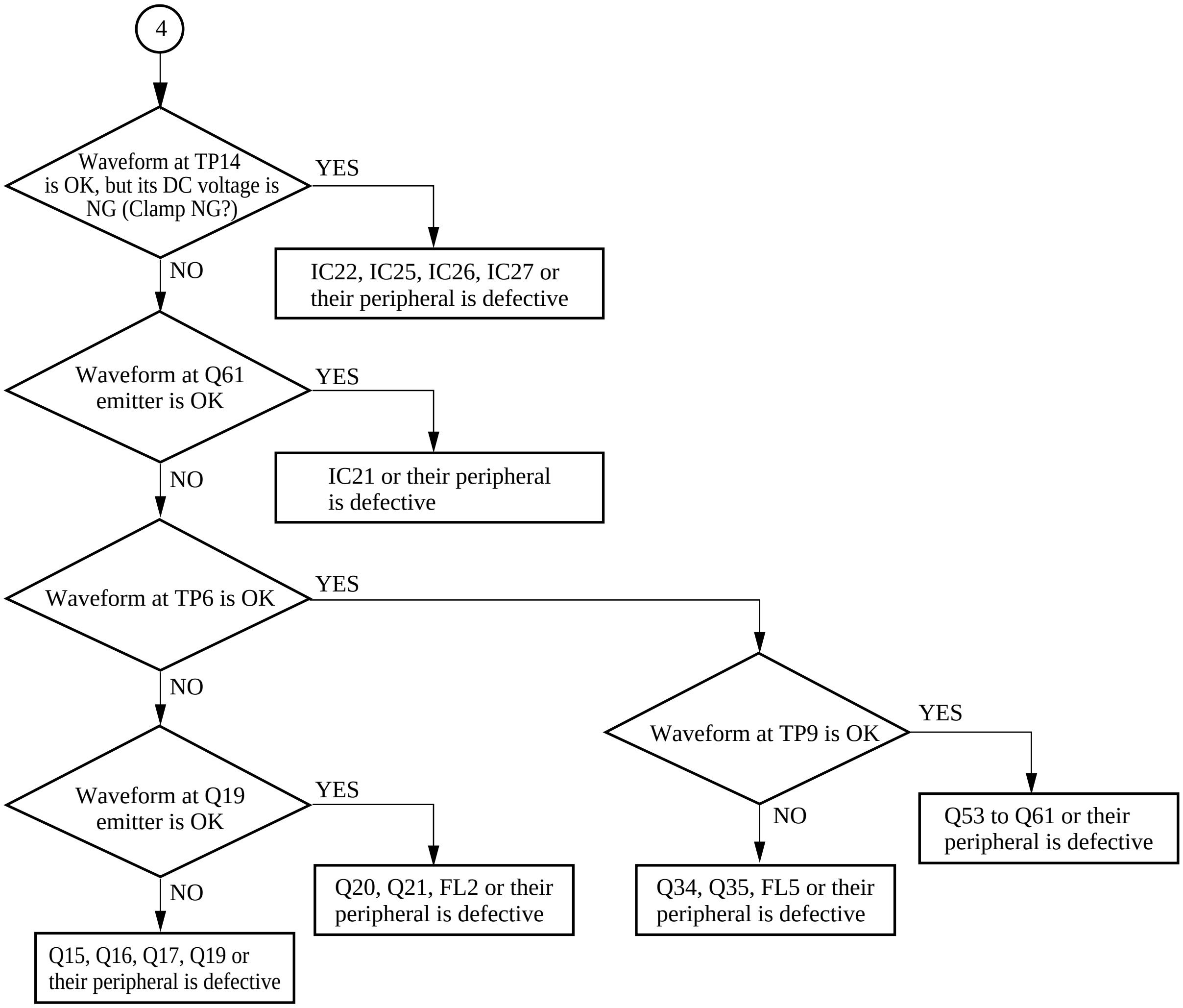

1
Clock (27 MHz) is input to IC31 pin-56
NO
IC134 is defective
YES
Waveform at TP29 is OK (13.5 MHz)
NO
Either IC31 or IC134 is defective
YES
Waveform at IC31 pin-52 is OK
NO
Either one of following is defective: IC128, IC129, IC130
YES
Waveform at IC32 pin-9 is OK
NO
Either IC131 or IC132 is defective
YES
IC10 pin-5 is clock of 13.5 MHz
NO
Either IC129 or IC128 is defective
YES
When MENU: OFF, IC pin-1: 0V IC pin-2: Blanking signal
NO
IC10 is defective
YES
Either one of following is defective : IC31, 32, 33, 34 (There are printed symbols of parts, not mounted)

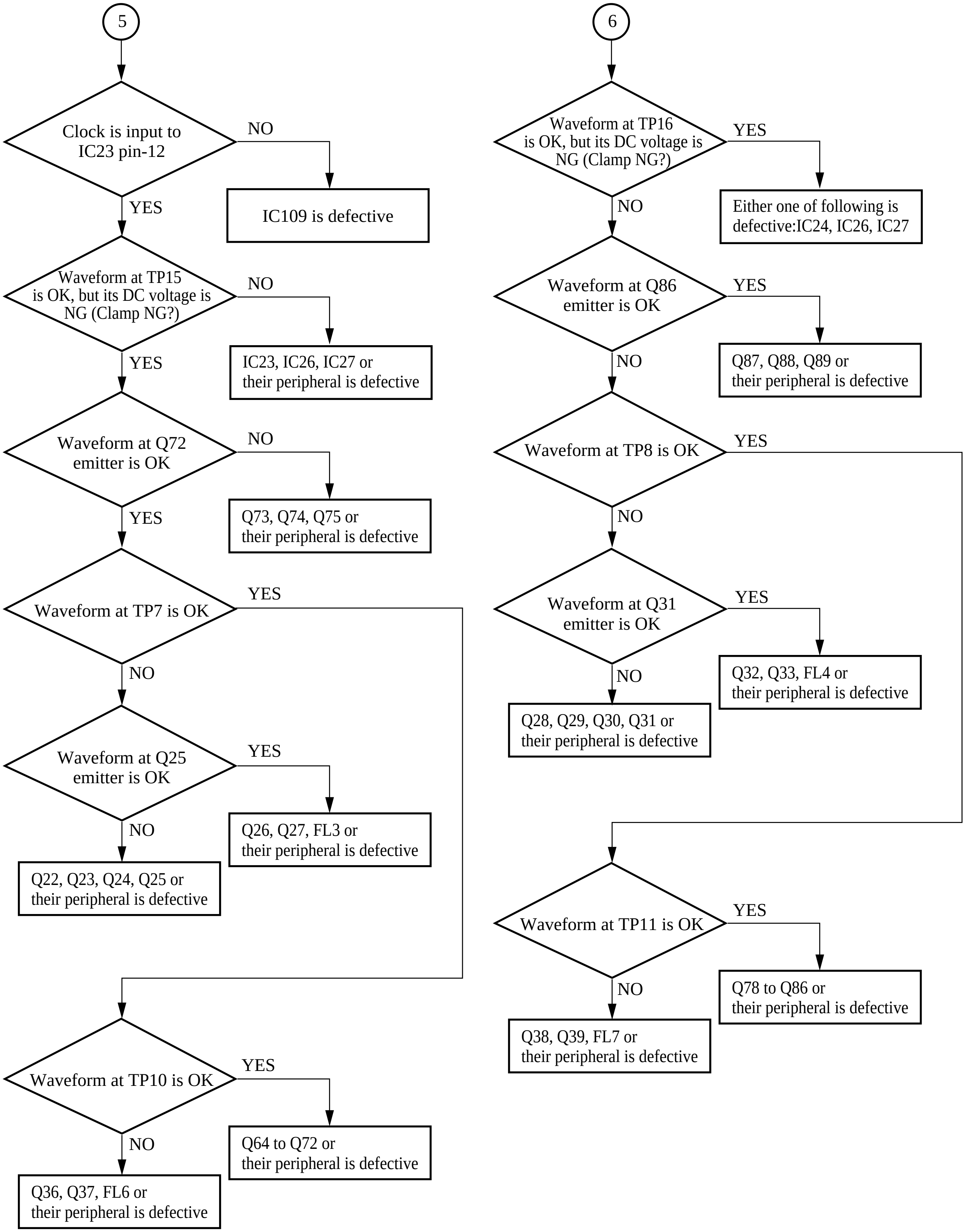
**2. The video picture is abnormal when the RGB input is selected.**
**(Video picture has no problems when any other input is selected.)**


START
Color only is NG. (Waveform at TP34 is OK)
YES
NO
Luminance signal only is NG. (Waveform at TP35 is OK)
YES
NO
Both luminance and color are NG
Waveforms at TP14, TP15, TP16 are OK
NO
3
YES
Waveforms at TP21, TP31 (13.5 MHz) and TP30 (27 MHz) are OK
NO
Either one of following is defective: IC134, IC135, IC136, IC137
YES
Waveforms at TP22, TP23, TP24 are OK (H. V. FLD)
NO
Either IC119 or IC120 is defective
YES
Waveforms at IC11 pins-4/-1 are OK. (H. and V. SYNC respectively)
NO
Q41, Q42, Q44, Q45 or their peripheral is defective
YES
Waveforms at TP13, TP12 are OK. (H. and V. SYNC respectively)
NO
Either IC11 or IC12 is defective
YES
2
Both waveform and DC voltage at TP14 are OK (black ≅ 0.7 V)
NO
4
YES
Either one of following is defective: IC101, IC102, IC113, IC114, IC117, IC22
Both waveform and DC voltage at TP15 are OK (black ≅ 1.5 V)
NO
U signal is NG
5
YES
Both waveform and DC voltage at TP16 are OK (black ≅ 1.5 V)
NO
V signal is NG
6
YES
Either one of following is defective: IC104, IC105, IC106, IC115, IC116, IC118, IC109, IC112

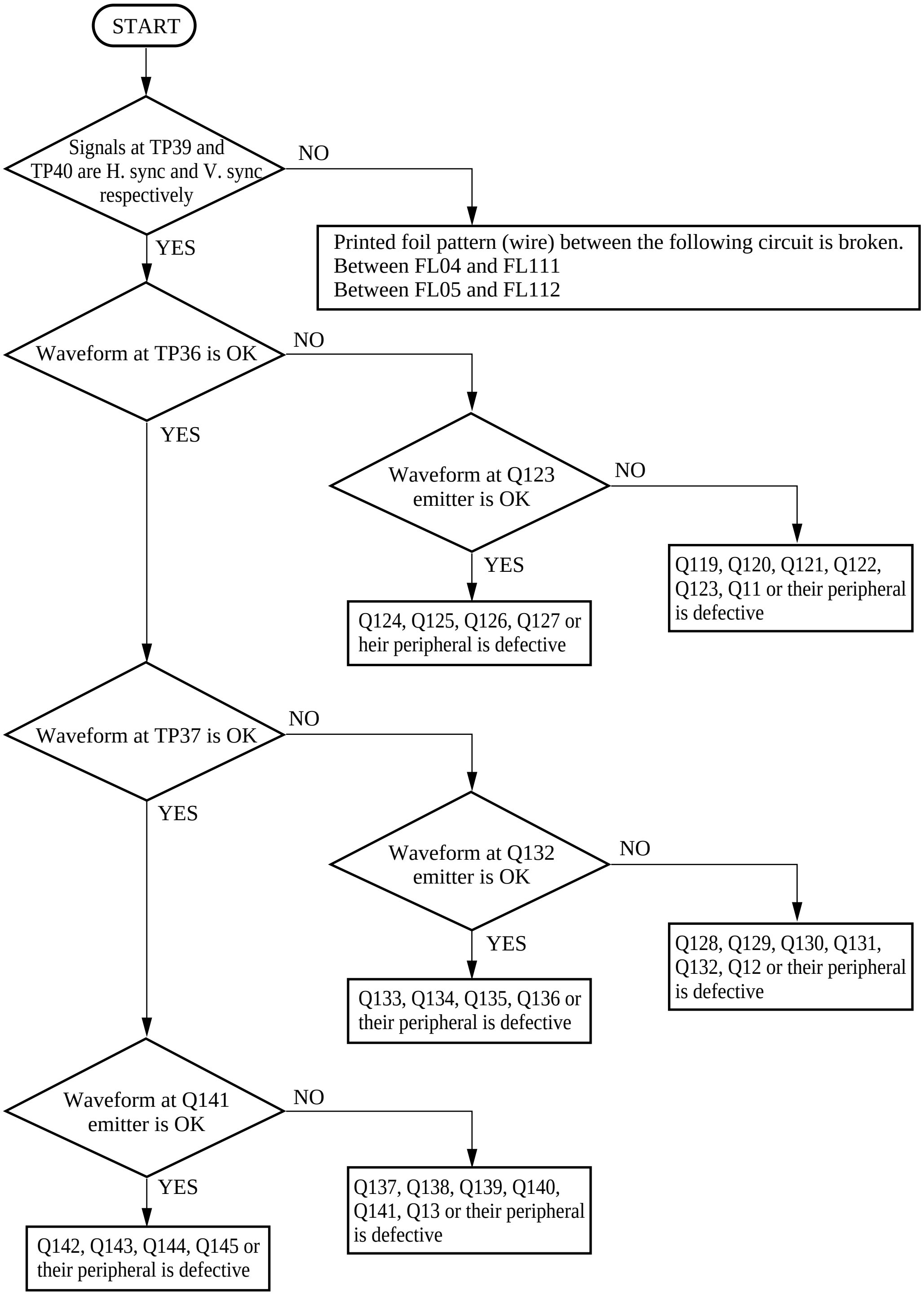

2
Signal at IC36 pin-5 is the H. rate pulse
NO
IC36 is defective
YES
Signal at IC17 pin-8 is the H. rate pulse synchronous with TP13
NO
YES
IC16-8pin : 0V
YES
---- PLL NG
IC13, IC16, IC17, IC18, IC19, IC20 or their peripheral is defective
NO
IC10-34pin : 0V
YES
Either IC16 or IC112 is defective
NO
IC10 is defective
Waveform at TP17 is OK (CLK)
NO
IC107 is defective
YES
Waveform at TP18 is OK (H. SYNC)
NO
Either IC110 or IC107 is defective
YES
Waveform at TP19 is OK (V. SYNC)
NO
Either one of following is defective: IC108, IC109, IC110, IC111
YES
DC voltage at TP14, TP15, TP16 is OK. (Clamp OK?)
NO
---- CLAMP NG
YES
Either IC119 or IC10 is defective
H. rate pulse is input to IC27 pin-5/-6/-13
YES
Either IC26 or IC27 is defective
NO
H. rate pulse is input to IC36 pin-1
NO
Either one of following is defective: IC37, IC11, IC14
YES
Either IC15 or IC36 is defective


3
Waveform at Q47, Q48, Q49 is OK (R, G, B signals respectively)
NO
Q11, Q12, Q13, Q47, Q48, Q49 or their peripheral is defective
YES
IC10 pin-34: 0V
IC12 pin-8: 0 V
Either one of the following is 0V and the other is 5 V IC12 pin -10 and pin-12
NO
Either IC10 or IC12 is defective
YES
Q90, Q91, Q92 or their peripheral is defective

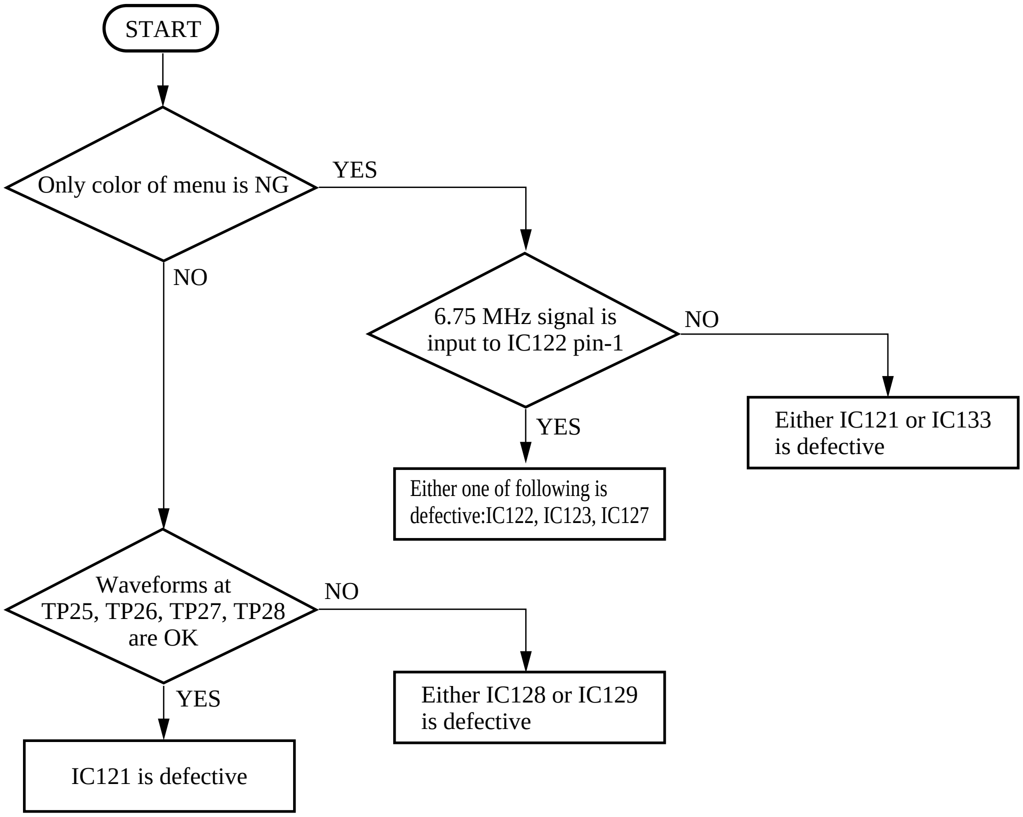

4
Waveform at TP14 is OK, but its DC voltage is NG (Clamp NG?)
YES
IC22, IC25, IC26, IC27 or their peripheral is defective
NO
Waveform at Q61 emitter is OK
YES
IC21 or their peripheral is defective
NO
Waveform at TP6 is OK
YES
Waveform at TP9 is OK
YES
Q53 to Q61 or their peripheral is defective
NO
Q34, Q35, FL5 or their peripheral is defective
NO
Waveform at Q19 emitter is OK
YES
Q20, Q21, FL2 or their peripheral is defective
NO
Q15, Q16, Q17, Q19 or their peripheral is defective


5
Clock is input to IC23 pin-12
NO
IC109 is defective
YES
Waveform at TP15 is OK, but its DC voltage is NG (Clamp NG?)
NO
IC23, IC26, IC27 or their peripheral is defective
YES
Waveform at Q72 emitter is OK
NO
Q73, Q74, Q75 or their peripheral is defective
YES
Waveform at TP7 is OK
YES
NO
Waveform at Q25 emitter is OK
YES
Q26, Q27, FL3 or their peripheral is defective
NO
Q22, Q23, Q24, Q25 or their peripheral is defective
Waveform at TP10 is OK
YES
Q64 to Q72 or their peripheral is defective
NO
Q36, Q37, FL6 or their peripheral is defective
6
Waveform at TP16 is OK, but its DC voltage is NG (Clamp NG?)
YES
Either one of following is defective:IC24, IC26, IC27
NO
Waveform at Q86 emitter is OK
YES
Q87, Q88, Q89 or their peripheral is defective
NO
Waveform at TP8 is OK
YES
NO
Waveform at Q31 emitter is OK
YES
Q32, Q33, FL4 or their peripheral is defective
NO
Q28, Q29, Q30, Q31 or their peripheral is defective
Waveform at TP11 is OK
YES
Q78 to Q86 or their peripheral is defective
NO
Q38, Q39, FL7 or their peripheral is defective

### 3. The RGB MONITOR OUT display is abnormal.


START
Signals at TP39 and TP40 are H. sync and V. sync respectively
NO
YES
Printed foil pattern (wire) between the following circuit is broken.
Between FL04 and FL111
Between FL05 and FL112
Waveform at TP36 is OK
NO
YES
Waveform at Q123 emitter is OK
NO
YES
Q119, Q120, Q121, Q122, Q123, Q11 or their peripheral is defective
Q124, Q125, Q126, Q127 or heir peripheral is defective
Waveform at TP37 is OK
NO
YES
Waveform at Q132 emitter is OK
NO
YES
Q128, Q129, Q130, Q131, Q132, Q12 or their peripheral is defective
Q133, Q134, Q135, Q136 or their peripheral is defective
Waveform at Q141 emitter is OK
NO
YES
Q137, Q138, Q139, Q140, Q141, Q13 or their peripheral is defective
Q142, Q143, Q144, Q145 or their peripheral is defective

**4. The GRAPHICS Y/C OUT display is abnormal when the menu is displayed (during DRAW mode).**


START
Only color of menu is NG
YES
NO
6.75 MHz signal is input to IC122 pin-1
NO
Either IC121 or IC133 is defective
YES
Either one of following is defective:IC122, IC123, IC127
Waveforms at TP25, TP26, TP27, TP28 are OK
NO
Either IC128 or IC129 is defective
YES
IC121 is defective

## 4-6. DAD-33 BOARD ADJUSTMENT (PCS-G510)

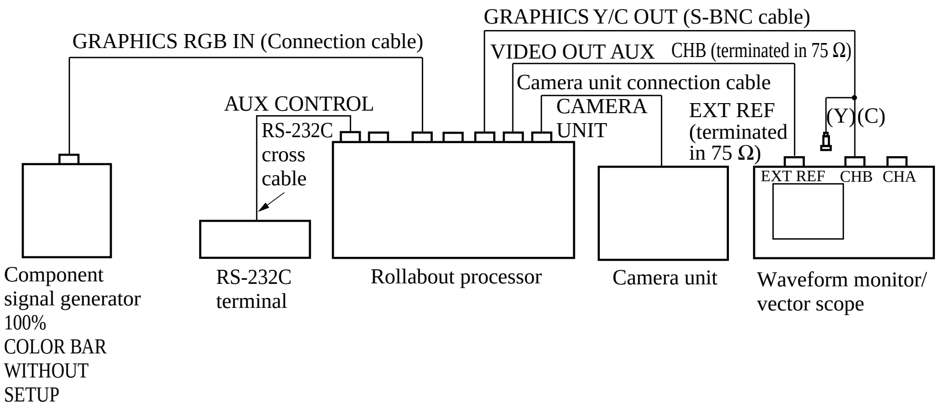
### [Equipment required]

- PCS-5100/5100P system
  - Rollabout processor (PCS-P500/P500P)
  - Camera unit (PCS-C300/C300P)
  - Remote commander (PCS-R500)
- Component signal generator (Tektronix TSG300, Leader LT1610A or equivalent)
- Oscilloscope
- Waveform monitor/vector scope (Tektronix 1780 for NTSC, 1781 for PAL or equivalent)
- Camera unit connection cable (supplied accessory)

### [Service tools]

- VH-950 extension board (Sony part number: J-6389-500-A)
- S-BNC video cable (Sony part number: J-6381-380-A)
- Connection cable (Sony part number: 1-590-226-11)
- S cable
- RS-232C terminal (PC/AT compatible machine with communication software "CCT")
- RS-232C cross cable

### [Connection]


GRAPHICS Y/C OUT (S-BNC cable)
GRAPHICS RGB IN (Connection cable)
VIDEO OUT AUX
CHB (terminated in 75 Ω)
Camera unit connection cable
AUX CONTROL
CAMERA UNIT
EXT REF (terminated in 75 Ω)
(Y)
(C)
RS-232C cross cable
EXT REF
CHB
CHA
Component signal generator 100% COLOR BAR WITHOUT SETUP
RS-232C terminal
Rollabout processor
Camera unit
Waveform monitor/ vector scope

### [Preparation]

1) Connect a camera unit (PCS-C300/C300P) to the rollabout processor (PCS-P500/P500P) and perform the setups for the normal operating condition.
2) Insert the extension board to the slot of DAD-33/33P board.
3) Insert the DAD-33/33P board to the extension board.
4) Make connection as shown above.
5) Start up the communication software "CCT" which is installed in the RS-232C terminal, then turn on the main power of the PCS-5100/5100P system.
6) Turn on the main power from the remote commander (PCS-R500).

**[Command list for DAD-33/33P board adjustment]**

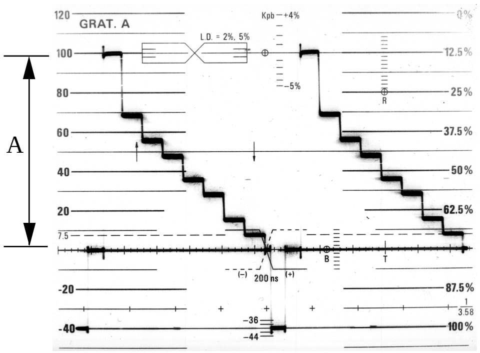
The following commands must be input from the RS-232C terminal in the following adjustment procedure.

(↵ indicates execution and * indicates a space.)

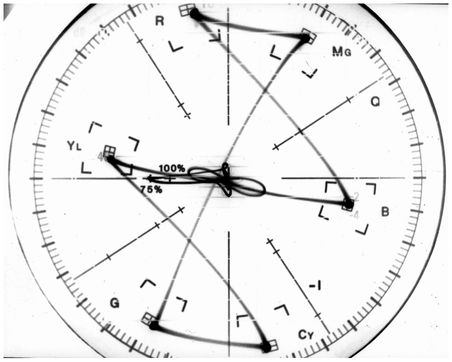
```
Command A:  pass*39 ↵
            vcp*2 ↵
            vcx_dwSONYTestSig*3 (NTSC), vcx_dwSONYTestSig*5 (PAL) ↵
            vcx_dwVidProgramUpdateFlag*1 ↵

Command B:  out*2a2,e0 ↵
```

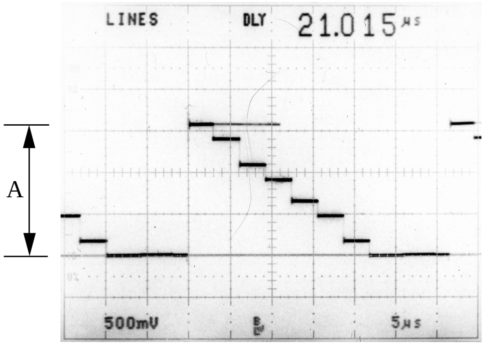
### 4-6-1. S OUT Y Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| • Enter the dual monitor mode using a remote commander.<br>(Click “OTHER”, “SETUP” and “PERIPHERAL”, and set “DUAL MONITOR” to ON.)<br>• Input the command A from the RS-232C terminal. | VIDEO OUT Y/C (Y)<br> <br>A=100±1 IRE (NTSC) | ⊘ RV7/DAD-33 (F-3) |

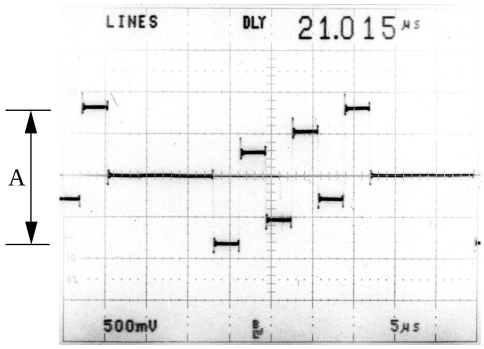
### 4-6-2. S OUT C Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command A is continued.) | GRAPHICS Y/C OUT (C)<br> <br>The respective spots must be positioned within the specified “⊞” zones. | ⊘ RV8/DAD-33 (F-3) |

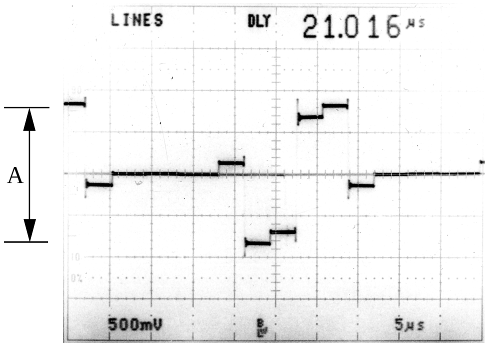
### 4-6-3. RGB IN Y Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| Input the command B from the RS-232C terminal.<br>TRIG : TP13/DAD-33 (E-2) | TP14/DAD-33 (C-2)<br><br>A=1.60±0.05 V | ⊘ RV1/DAD-33 (F-2) |

### 4-6-4. RGB IN U Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command B is continued.)<br>TRIG : TP13/DAD-33 (E-2) | TP15/DAD-33 (B-2)<br><br>A=1.65±0.05 V | ⊘ RV2/DAD-33 (F-2) |

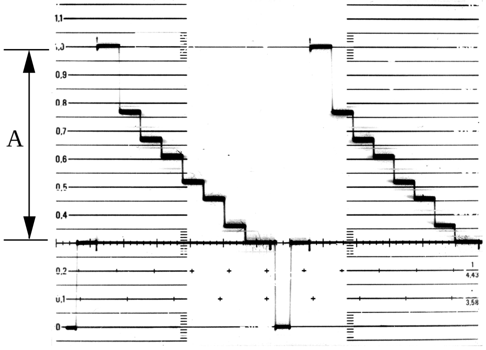
### 4-6-5. RGB IN V Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command B is continued.)<br>TRIG : TP13/DAD-33 (E-2) | TP16/DAD-33 (B-2)<br><br>A=1.65±0.05 V | ⊘ RV3/DAD-33 (F-1) |

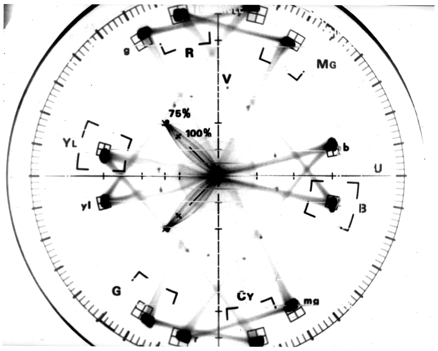
## 4-7. DAD-33P BOARD ADJUSTMENT (PCS-G510P)

For [Equipment required], [Service tools], [Connection], [Preparation] and [Command list for DAD-33/33P board adjustment], refer to section 4-6.

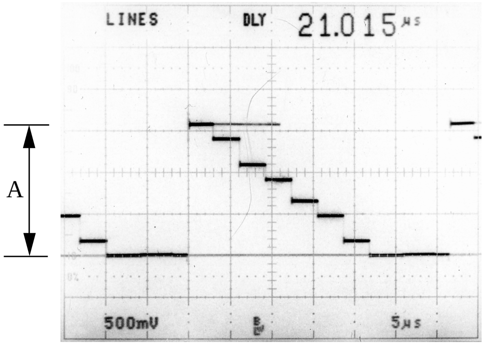
### 4-7-1. S OUT Y Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| • Enter the dual monitor mode using a remote commander.<br>(Click “OTHER”, “SETUP” and “PERIPHERAL”, and set “DUAL MONITOR” to ON.)<br>• Input the command A from the RS-232C terminal. | VIDEO Y/C OUT (Y)<br> <br>A=700±7 mV | ⊘ RV7/DAD-33P (F-2) |

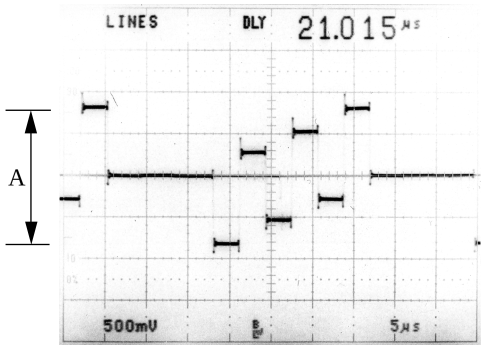
### 4-7-2. S OUT C Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command A is continued.) | GRAPHICS Y/C OUT (C)<br> <br>The respective spots must be positioned within the specified “⊞” zones. | ⊘ RV8/DAD-33P (E-3) |

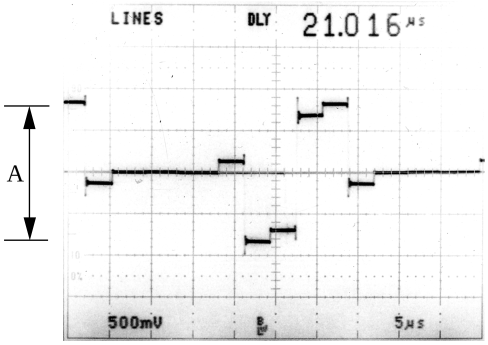
### 4-7-3. RGB IN Y Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| Input the command B from the RS-232C terminal.<br>TRIG : TP13/DAD-33P (E-2) | TP14/DAD-33P (C-2)<br> <br>A=1.60±0.05 V | ⊘ RV1/DAD-33P (F-2) |

### 4-7-4. RGB IN U Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command B is continued.)<br>TRIG : TP13/DAD-33P (E-2) | TP15/DAD-33P (B-2)<br> <br>A=1.65±0.05 V | ⊘ RV2/DAD-33P (F-2) |

### 4-7-5. RGB IN V Level Adjustment

| Adjustment condition | Specification | Adjustment point |
|---|---|---|
| (Execution of the command B is continued.)<br>TRIG : TP13/DAD-33P (E-2) | TP16/DAD-33P (B-2)<br> <br>A=1.65±0.05 V | ⊘ RV3/DAD-33P (F-1) |

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## Volume 1 (E)

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## APR-011A BOARD(PCS-P500/P500P)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8319-582-A | o | MOUNTED CIRCUIT BOARD, APR-011A |
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C101 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C102 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C103 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C106 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C110 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C111 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C112 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C113 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C119 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C150 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C151 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C152 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C153 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C154 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C155 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C156 | 1-113-500-11 | s | TANTALUM, CHIP 100uF 20% 10V |
| C157 | 1-113-500-11 | s | TANTALUM, CHIP 100uF 20% 10V |
| C158 | 1-113-500-11 | s | TANTALUM, CHIP 100uF 20% 10V |
| C202 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C203 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C204 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C205 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C206 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C210 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C211 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C212 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C214 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C215 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C216 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C217 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C218 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C220 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C221 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C222 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C223 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C224 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C225 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C226 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C227 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C228 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C230 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C232 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C233 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C234 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C235 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C236 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C237 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C238 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C239 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C300 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C302 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C303 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C309 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C310 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(APR-011A BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C311 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C321 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C322 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C323 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C324 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C325 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C330 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C338 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C339 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C340 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C341 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C342 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C343 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C344 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C345 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C346 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C347 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C348 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C349 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C350 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C351 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C352 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C353 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C354 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C401 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C402 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C403 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C404 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C405 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C407 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C408 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C409 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C410 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C411 | 1-104-913-11 | s | TANTALUM, CHIP 10uF 20% 16V |
| C412 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C413 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C414 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C415 | 1-104-913-11 | s | TANTALUM, CHIP 10uF 20% 16V |
| C416 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C426 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C427 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C428 | 1-164-217-11 | s | CERAMIC, CHIP 150PF 5% 50V |
| C429 | 1-164-217-11 | s | CERAMIC, CHIP 150PF 5% 50V |
| C433 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C434 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C436 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C437 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C438 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C443 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C444 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C445 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C446 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C447 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C448 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C449 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C450 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C452 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C453 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C460 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C461 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C462 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C478 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C479 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C483 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C484 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C485 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C491 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C496 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C531 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C532 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C533 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C534 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C551 | 1-162-961-11 | s | CERAMIC, CHIP 330PF 10% 50V |
| C552 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C601 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C602 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C603 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C604 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C607 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C608 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C609 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C610 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C700 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C701 | 1-126-405-11 | s | ELECT, CHIP 10uF 20% 50V |
| C702 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C703 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C704 | 1-126-405-11 | s | ELECT, CHIP 10uF 20% 50V |
| C705 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C706 | 1-126-405-11 | s | ELECT, CHIP 10uF 20% 50V |
| C707 | 1-115-416-11 | s | CERAMIC 1000PF 5% 25V |
| C708 | 1-115-416-11 | s | CERAMIC 1000PF 5% 25V |
| C709 | 1-115-416-11 | s | CERAMIC 1000PF 5% 25V |
| C710 | 1-115-416-11 | s | CERAMIC 1000PF 5% 25V |
| C711 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C712 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C713 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C714 | 1-126-405-11 | s | ELECT, CHIP 10uF 20% 50V |
| C715 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| CN101 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN102 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN103 | 1-691-551-11 | o | CONNECTOR (SMD) 8P, MALE |
| CN403 | 1-562-941-11 | s | JACK, PIN 1P, FEMALE |
| CN404 | 1-562-941-11 | s | JACK, PIN 1P, FEMALE |
| CN405 | 1-562-941-11 | s | JACK, PIN 1P, FEMALE |
| D401 | 8-719-800-76 | s | DIODE 1SS226 |
| D402 | 8-719-800-76 | s | DIODE 1SS226 |
| D404 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| D405 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| D406 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| D407 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| D408 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| D409 | 8-719-158-35 | s | DIODE RD9.1SB-T1 |
| FL401 | 1-233-323-31 | s | FILTER, CHIP EMI |
| FL402 | 1-233-323-31 | s | FILTER, CHIP EMI |
| FL403 | 1-233-323-31 | s | FILTER, CHIP EMI |
| IC101 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC102 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |
| IC103 | 8-759-491-37 | s | IC TC74VHCT245AF(EL) |
| IC110 | 8-759-557-30 | o | IC ISPLSI2032-80LT44-RAP11V1 |
| IC111 | 8-759-491-39 | s | IC TC74VHCT374AF(EL) |
| IC112 | 8-759-491-41 | s | IC TC74VHCT541AF(EL) |
| IC113 | 8-759-491-41 | s | IC TC74VHCT541AF(EL) |
| IC120 | 8-759-491-31 | s | IC TC74VHCT00AF(EL) |
| IC150 | 8-759-426-95 | s | IC L88MS33T-TL |
| IC151 | 8-759-426-95 | s | IC L88MS33T-TL |
| IC152 | 8-759-426-95 | s | IC L88MS33T-TL |
| IC202 | 8-759-392-79 | s | IC SN74LVC245APW-E05 |
| IC203 | 8-759-451-76 | s | IC SN74LVC244APW-E05 |
| IC204 | 8-759-451-76 | s | IC SN74LVC244APW-E05 |
| IC205 | 8-759-451-76 | s | IC SN74LVC244APW-E05 |
| IC206 | 8-759-451-76 | s | IC SN74LVC244APW-E05 |
| IC210 | 8-759-543-90 | s | IC UPD77019GC-015-9EU |
| IC220 | 8-759-543-90 | s | IC UPD77019GC-015-9EU |
| IC230 | 8-759-543-90 | s | IC UPD77019GC-015-9EU |
| IC300 | 8-759-080-91 | s | IC MM74HC4046MX |
| IC310 | 8-759-565-31 | s | IC ISPLSI2032-80LT44-RAP12V2 |
| IC320 | 8-759-561-83 | s | IC XC56303PV80 |
| IC321 | 8-759-529-45 | s | IC IDT71V256SA15PZ-TL |
| IC322 | 8-759-529-45 | s | IC IDT71V256SA15PZ-TL |
| IC323 | 8-759-529-45 | s | IC IDT71V256SA15PZ-TL |
| IC401 | 8-759-372-29 | s | IC HA178L09UA-TL |
| IC402 | 8-759-372-30 | s | IC HA179L09U-TL |
| IC403 | 8-759-323-82 | s | IC HA178L05UA-TL |
| IC404 | 8-759-323-82 | s | IC HA178L05UA-TL |
| IC405 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC406 | 8-759-233-73 | s | IC TC74HCT244AF(EL) |
| IC407 | 8-759-553-67 | s | IC UPC4574G2-E2 |
| IC409 | 8-759-553-67 | s | IC UPC4574G2-E2 |
| IC504 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |
| IC700 | 8-759-349-37 | s | IC AK4510-VS-E2 |
| IC701 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |
| JC1 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC102 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC103 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC104 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| L401 | 1-410-389-31 | s | INDUCTOR CHIP 47UH |
| Q401 | 8-729-141-48 | s | TRANSISTOR 2SB624-BV345 |
| Q402 | 8-729-141-48 | s | TRANSISTOR 2SB624-BV345 |
| Q403 | 8-729-141-48 | s | TRANSISTOR 2SB624-BV345 |
| Q404 | 8-729-141-48 | s | TRANSISTOR 2SB624-BV345 |
| Q405 | 8-729-216-22 | s | TRANSISTOR 2SA1162 |
| Q406 | 8-729-216-22 | s | TRANSISTOR 2SA1162 |
| Q407 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| Q408 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| R100 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R120 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R201 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R210 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R211 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R212 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R214 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R215 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R216 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R219 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R220 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R221 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R222 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R224 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R225 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R226 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R229 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R230 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R231 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R232 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R234 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R235 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R236 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R237 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R239 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R300 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R301 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R302 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R303 | 1-216-828-11 | s | METAL, CHIP 3.9K 5% 1/16W |
| R304 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R305 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R306 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R310 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R311 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R312 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R313 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R314 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R315 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R316 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R317 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R320 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R321 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R322 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R323 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R324 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R325 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R326 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R327 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R328 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R329 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R330 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R341 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R342 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R351 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R352 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R400 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R402 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R403 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R415 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R416 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R421 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R422 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R423 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R424 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R425 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R426 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R427 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R442 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R443 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R444 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R445 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R446 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R447 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R448 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R449 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R450 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R451 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R457 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R458 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R460 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R463 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R464 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R465 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R467 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R468 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R469 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R470 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R471 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R472 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R473 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R474 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R475 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R476 | 1-216-818-11 | s | METAL, CHIP 560 5% 1/16W |
| R477 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R478 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R494 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R495 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R496 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R497 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R498 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R499 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R500 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R503 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R505 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R509 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R510 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R511 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R512 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R517 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R518 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R527 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R530 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R535 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R536 | 1-216-847-11 | s | METAL, CHIP 150K 5% 1/16W |
| R537 | 1-216-843-11 | s | METAL, CHIP 68K 5% 1/16W |
| R539 | 1-216-834-11 | s | METAL, CHIP 12K 5% 1/16W |
| R545 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R546 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R547 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R700 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R701 | 1-216-825-11 | s | METAL, CHIP 2.2K 5% 1/16W |
| R702 | 1-216-825-11 | s | METAL, CHIP 2.2K 5% 1/16W |
| R703 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| RB100 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB101 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB102 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB103 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB104 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |

(APR-011A BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| RB105 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB106 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB107 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB108 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB109 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB110 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB111 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB112 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB113 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB114 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB115 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB116 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB117 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB118 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB119 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB120 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB121 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB122 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB200 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB201 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB210 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB211 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB212 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB213 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB220 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB221 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB222 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB223 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB230 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB231 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB232 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB233 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB320 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB321 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB322 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB323 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB324 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB325 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB326 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB700 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB701 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB702 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| S102 | 1-692-271-31 | s | SWITCH, SLIDE |
| X200 | 1-781-076-11 | s | CRYSTAL 7.500MHz |

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CPU-202 BOARD(PCS-P500/P500P)

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8272-636-C | o | MOUNTED CIRCUIT BOARD, CPU-202 |
| 1pc | 7-621-255-65 | s | SCREW +P 2X10 |
| 1pc | 7-621-259-55 | s | SCREW +P 2.6X8 |
| 1pc | 7-622-205-05 | s | NUT M2 TYPE2 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| 1pc | 8-759-460-61 | s | IC PALCE16V8H-15SC/4 |
| 1pc | 2-832-007-00 | s | BUSHING (K), INSULATING |
| BZ1 | 1-529-025-00 | s | BUZZER |
| C5 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C6 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C7 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C8 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C9 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C10 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C11 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C12 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C13 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C14 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C15 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C16 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C17 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C18 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C19 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C20 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C21 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C22 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C23 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C24 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C25 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C26 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C27 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C28 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C29 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C30 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C31 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C32 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C33 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C35 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C36 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C37 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C38 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C39 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C40 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C41 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C42 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C43 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C46 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C47 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C48 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C49 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C50 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C51 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C52 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C54 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C55 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C57 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C58 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C59 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(CPU-202 BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C60 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C61 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C70 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C71 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C72 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C73 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C74 | 1-162-923-11 | s | CERAMIC, CHIP 47PF 5% 50V |
| C75 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C76 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C78 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C79 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C80 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C81 | 1-107-688-11 | s | TANTALUM, CHIP 1.5uF 20% 10V |
| C82 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C83 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C90 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C91 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C92 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C93 | 1-126-397-11 | s | ELECT, CHIP 33uF 20% 25V |
| C99 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C110 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C111 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| CN1 | 1-750-832-21 | o | CONNECTOR, BB 120P, FEMALE |
| CN2 | 1-766-194-11 | o | CONNECTOR, D-SUB 9P, FEMALE |
| CN3 | 1-766-194-11 | o | CONNECTOR, D-SUB 9P, FEMALE |
| CN4 | 1-778-465-11 | s | CONNECTOR 20P, FEMALE |
| CN5 | 1-774-776-11 | s | CONNECTOR, PC CARD 68P |
| CNI16 | 1-540-151-21 | s | SOCKET, IC 32P |
| D1 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D2 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D3 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D4 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D5 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D6 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D7 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D8 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D9 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D10 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D11 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D12 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D13 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D14 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D15 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D16 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D17 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D18 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D19 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D20 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D23 | 8-719-820-50 | s | DIODE TLY205 |
| D25 | 8-719-820-61 | s | DIODE 1SS294 |
| D28 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D29 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D30 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D31 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D32 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D33 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D34 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D35 | 8-719-158-55 | s | DIODE RD15SB-T1 |

(CPU-202 BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| D36 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D37 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D38 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D39 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D40 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D41 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D42 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D43 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D44 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D45 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D46 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D47 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D48 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D49 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D50 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D51 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D52 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D53 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| D54 | 8-719-158-55 | s | DIODE RD15SB-T1 |
| FL1 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL2 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL3 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL4 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL5 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL6 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL7 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL8 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL9 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL10 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL11 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL12 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL13 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL14 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL15 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL16 | 1-233-326-31 | s | FILTER, CHIP EMI |
| FL17 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL18 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL19 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL20 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL21 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL22 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL23 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL24 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL25 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL26 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL27 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL28 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL29 | 1-233-319-31 | s | FILTER, CHIP EMI |
| FL30 | 1-233-319-31 | s | FILTER, CHIP EMI |
| IC2 | 8-759-365-29 | s | IC KU80486SXSA-25 |
| IC3 | 8-759-195-75 | o | IC WD8110LVZZ25 |
| IC4 | 8-759-365-27 | s | IC WD8122LVZX |
| IC5 | 8-759-195-76 | o | IC WD7625LVSS |
| IC6 | 8-759-365-30 | s | IC RF5C296 |
| IC7 | 8-759-988-66 | s | IC MB89371APF |
| IC10 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC11 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC12 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC13 | 8-759-538-54 | s | IC KM416C1200CT-6T |

(CPU-202 BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC14 | 8-759-365-28 | s | IC E28F016XD-85 |
| IC15 | 8-759-365-28 | s | IC E28F016XD-85 |
| IC16 | 8-759-473-78 | o | IC AM29F010-120JC-RAP0V3 |
| IC20 | 8-759-988-27 | s | IC SN75188NS-E05 |
| IC21 | 8-759-988-27 | s | IC SN75188NS-E05 |
| IC22 | 8-759-988-24 | s | IC SN75189ANS-E05 |
| IC23 | 8-759-988-24 | s | IC SN75189ANS-E05 |
| IC24 | 8-759-988-24 | s | IC SN75189ANS-E05 |
| IC30 | 8-759-452-05 | s | IC PI74FCT162Q245ATAX |
| IC31 | 8-759-452-05 | s | IC PI74FCT162Q245ATAX |
| IC32 | 8-759-452-05 | s | IC PI74FCT162Q245ATAX |
| IC33 | 8-759-452-05 | s | IC PI74FCT162Q245ATAX |
| IC34 | 8-759-452-05 | s | IC PI74FCT162Q245ATAX |
| IC41 | 8-759-557-29 | s | IC ISPLSI2032-80LT44-RAP10V1 |
| IC42 | 8-759-973-71 | s | IC TL7705CPS-B |
| IC50 | 8-759-243-47 | s | IC TC74ACT04F |
| IC51 | 8-759-936-25 | s | IC SN74AS08NS-E20 |
| IC52 | 8-759-347-38 | s | IC SN74ALS138ANS-E05 |
| IC53 | 8-759-491-37 | s | IC TC74VHCT245AF(EL) |
| IC54 | 8-759-927-29 | s | IC SN74HCU04NS |
| IC56 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |
| IC57 | 8-759-934-54 | s | IC SN74ALS273NS-E05 |
| IC59 | 8-759-491-36 | s | IC TC74VHCT244AF(EL) |
| IC60 | 8-759-941-17 | s | IC SN74LS06NS |
| IC63 | 8-759-936-25 | s | IC SN74AS08NS-E20 |
| IC70 | 8-759-926-95 | s | IC SN74HC4020ANS |
| IC71 | 8-759-462-00 | o | IC PALCE16V8H-15SC/4/T-RAP06V1 |
| L1 | 1-408-771-11 | s | INDUCTOR, CHIP 3.3uH |
| PS1 | ⚠ 1-576-212-21 | s | FUSE, CHIP 1.25A 125V |
| Q4 | 8-729-120-53 | s | TRANSISTOR 2SJ132-Z |
| R1 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R2 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R3 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R4 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R5 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R10 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R11 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R12 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R15 | 1-216-857-11 | s | METAL, CHIP 1M 5% 1/16W |
| R16 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R17 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R18 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R19 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R20 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R21 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R22 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R23 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R24 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R25 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R26 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R27 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R28 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R29 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R30 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R31 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R32 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |

(CPU-202 BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R33 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R34 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R35 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R36 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R37 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R38 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R39 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R43 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R44 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R45 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R48 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R50 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R51 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R52 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R53 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R54 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R56 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R58 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R59 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R60 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R61 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R63 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R64 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R65 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R66 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R67 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R68 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R69 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R70 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R71 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R72 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R73 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R74 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R75 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R76 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R77 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R78 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R79 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R80 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R81 | 1-216-803-11 | s | METAL, CHIP 33 5% 1/16W |
| R82 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R83 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R84 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R85 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R86 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R87 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R88 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R89 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R90 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R91 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R92 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R93 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R94 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R95 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R96 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R97 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R98 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R99 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R100 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |

(CPU-202 BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R101 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| RB1 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB2 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB3 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB4 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB5 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB6 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB7 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB8 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB9 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB10 | 1-239-389-11 | s | RESISTOR BLOCK, CHIP 47Kx4 |
| RB11 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB13 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB14 | 1-239-430-11 | s | RESISTOR BLOCK, CHIP 4.7Kx4 |
| RB15 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB16 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB17 | 1-239-407-11 | s | RESISTOR BLOCK, CHIP 330x4 |
| RB19 | 1-239-390-11 | s | RESISTOR BLOCK, CHIP 33x4 |
| RB20 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB21 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB22 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB23 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| RB24 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB25 | 1-239-306-11 | s | RESISTOR BLOCK, CHIP 10kx8 |
| S1 | 1-692-270-41 | s | SWITCH, SLIDE |
| X1 | 1-760-969-21 | s | CRYSTAL 25.000MHz |
| X2 | 1-760-464-11 | s | CRYSTAL 4.9152MHz |
| X3 | 1-579-994-12 | s | CERAMIC 14.31818MHz |
| X4 | 1-760-965-21 | s | CRYSTAL 48.000MHz |

DAD-33 BOARD(PCS-G510)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-649-09 | s | SCREW +PS 3X10 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| 1pc | 7-685-871-01 | s | SCREW +BVTT 3X6 (S) |
| C3 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C4 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C5 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C101 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C102 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C103 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C104 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C105 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C106 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C107 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C108 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C109 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C110 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C111 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C112 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C113 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C114 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C115 | 1-162-922-11 | s | CERAMIC, CHIP 39PF 5% 50V |
| C116 | 1-162-922-11 | s | CERAMIC, CHIP 39PF 5% 50V |
| C121 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C122 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C123 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C124 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C125 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C126 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C127 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C128 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C129 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C130 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C131 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C132 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C201 | 1-126-402-11 | s | ELECT, CHIP 2.2uF 20% 50V |
| C202 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C203 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C204 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C205 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C206 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C207 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C208 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C209 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C210 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C211 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C212 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C214 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C215 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C216 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C217 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C218 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C219 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C221 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C223 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C224 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C225 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C226 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33 BOARD(PCS-G510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C227 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C229 | 1-162-959-11 | s | CERAMIC, CHIP 330PF 5% 50V |
| C230 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C231 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C232 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C233 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C251 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C252 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C253 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C254 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C255 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C256 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C261 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C262 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C302 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C303 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C305 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C306 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C307 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C308 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C309 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C310 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C311 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C312 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C313 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C314 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C315 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C316 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C317 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C318 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C319 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C320 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C321 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C322 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C323 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C324 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C325 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C326 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C327 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C328 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C329 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C330 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C331 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C332 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C333 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C334 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C335 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C337 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C338 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C339 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C340 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C341 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C342 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C343 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C344 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C345 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C346 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C347 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C348 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33 BOARD(PCS-G510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C349 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C350 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C351 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C352 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C353 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C381 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C382 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C383 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C384 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C385 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C386 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C387 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C388 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C401 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C402 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C403 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C404 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C405 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C406 | 1-162-964-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C407 | 1-162-964-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C408 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C409 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C410 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C411 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C412 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C413 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C414 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C415 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C416 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C417 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C418 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C419 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C420 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C421 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C422 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C423 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C424 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C425 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C426 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C427 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C428 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C429 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C430 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C431 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C432 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C433 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C500 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C501 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C502 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C503 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C504 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C505 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C506 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C507 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C508 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C509 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C510 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C511 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C512 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33 BOARD(PCS-G510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C513 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C514 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C515 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C516 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C517 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C518 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C519 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C520 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C521 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C522 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C523 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C524 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C525 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C526 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C527 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C528 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C529 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C530 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C531 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C532 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C533 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C534 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C535 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C536 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C537 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C613 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C614 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C615 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C616 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C619 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| CN2 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN3 | 1-764-642-11 | o | CONNECTOR, D-SUB 15P, FEMALE |
| CN4 | 1-566-848-11 | s | CONNECTOR, CIRCULAR 4P(S), FEMALE |
| CN5 | 1-764-642-11 | o | CONNECTOR, D-SUB 15P, FEMALE |
| CN6 | 1-691-591-11 | o | CONNECTOR 8P, MALE |
| D1 | 8-719-041-79 | s | DIODE MA721WA-TX |
| E1 | 1-535-757-11 | s | CHIP, CHECKER |
| E2 | 1-535-757-11 | s | CHIP, CHECKER |
| E3 | 1-535-757-11 | s | CHIP, CHECKER |
| E11 | 1-535-757-11 | s | CHIP, CHECKER |
| E12 | 1-535-757-11 | s | CHIP, CHECKER |
| E13 | 1-535-757-11 | s | CHIP, CHECKER |
| FL2 | 1-239-755-11 | s | FILTER, LOW-PASS |
| FL3 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL4 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL5 | 1-233-424-11 | s | FILTER, LOW-PASS |
| FL6 | 1-239-636-11 | s | FILTER, LOW-PASS |
| FL7 | 1-239-636-11 | s | FILTER, LOW-PASS |
| FL11 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL12 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL101 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL102 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL103 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL104 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL105 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL106 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL107 | 1-239-825-31 | s | FILTER, CHIP EMI |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| FL108 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL109 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL110 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL111 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL112 | 1-239-825-31 | s | FILTER, CHIP EMI |
| IC10 | 8-759-561-64 | s | IC ISPLSI1016E-80LT44-RAP00V1 |
| IC11 | 8-752-073-52 | s | IC CXA2016S |
| IC12 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC13 | 8-759-295-09 | s | IC TLC2932IPW |
| IC14 | 8-759-239-55 | s | IC TC74HC123AF |
| IC15 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC16 | 8-759-081-44 | s | IC TC74VHC04F(EL) |
| IC17 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC18 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC19 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC20 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC21 | 8-759-271-04 | s | IC LT1252CS8 |
| IC22 | 8-752-371-18 | s | IC CXD2302Q |
| IC23 | 8-752-371-18 | s | IC CXD2302Q |
| IC24 | 8-752-371-18 | s | IC CXD2302Q |
| IC25 | 8-759-931-56 | s | IC SN74LS684NS-E05 |
| IC26 | 8-759-268-95 | s | IC SN74HCT00ANS-E05 |
| IC27 | 8-759-239-25 | s | IC TC74HC4066AF |
| IC31 | 8-752-380-71 | s | IC CXD1913Q |
| IC32 | 8-752-870-04 | s | IC CXP5068H-242Q |
| IC36 | 8-759-239-58 | s | IC TC74HC221AF |
| IC37 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| IC41 | 8-759-701-59 | s | IC NJM78M09FA |
| IC42 | 8-759-069-28 | s | IC PQ05RF11 |
| IC43 | 8-759-701-87 | s | IC NJM7909FA |
| IC101 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC102 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC103 | 8-759-926-52 | s | IC SN74HC257NS |
| IC104 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC105 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC106 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC107 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC108 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC109 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC110 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC111 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC112 | 8-759-186-26 | s | IC TC74VHC02F(EL) |
| IC113 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC114 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC115 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC116 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC117 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC118 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC119 | 8-759-561-63 | s | IC ISPLSI1032E-70LT-RAP03V1 |
| IC120 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC121 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC122 | 8-759-926-69 | s | IC SN74HC377ANS |
| IC123 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC124 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC125 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC126 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC127 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC128 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC129 | 8-759-174-16 | s | IC TC74VHC244F(EL) |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC130 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC131 | 8-759-037-79 | s | IC SN74HC163ANS-E05 |
| IC132 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC133 | 8-759-186-26 | s | IC TC74VHC02F(EL) |
| IC134 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC135 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| IC136 | 8-759-447-77 | s | IC TC7WH74FU(TE12R) |
| IC137 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| JC101 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC103 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC105 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC108 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC109 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC501 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC502 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC506 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC508 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC509 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| L4 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L5 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L6 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L7 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L8 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L9 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L10 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L11 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L12 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L13 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L14 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| Q11 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q12 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q13 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q14 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q15 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q16 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q17 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q19 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q20 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q21 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q22 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q23 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q24 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q25 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q26 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q27 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q28 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q29 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q30 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q31 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q32 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q33 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q34 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q35 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q36 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q37 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q38 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q39 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q41 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q42 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q44 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q45 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q46 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q47 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q48 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q49 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q53 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q54 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q55 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q56 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q57 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q58 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q59 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q60 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q61 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q64 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q65 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q66 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q67 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q68 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q69 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q70 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q71 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q72 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q73 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q74 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q75 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q78 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q79 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q80 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q81 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q82 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q83 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q84 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q85 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q86 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q87 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q88 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q89 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q90 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q91 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q92 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q101 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q102 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q103 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q104 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q105 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q106 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q107 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q108 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q109 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q110 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q111 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q112 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q113 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q114 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q115 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q116 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q117 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q118 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q119 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q120 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q121 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q122 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q123 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q124 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q125 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q126 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q127 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q128 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q129 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q130 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q131 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q132 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q133 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q134 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q135 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q136 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q137 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q138 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q139 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q140 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q141 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q142 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q143 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q144 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q145 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| R31 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R32 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R41 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R45 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R54 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R55 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R100 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R101 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R102 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R103 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R104 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R105 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R106 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R107 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R108 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R109 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R110 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R111 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R112 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R113 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R114 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R115 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R116 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R117 | 1-211-979-11 | s | METAL, CHIP 27 0.5% 1/16W |
| R118 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R119 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R120 | 1-218-848-11 | s | METAL, CHIP 1.1K 0.5% 1/16W |
| R121 | 1-218-833-11 | s | METAL, CHIP 270 0.5% 1/16W |
| R122 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R123 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R124 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R125 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R126 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R127 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R128 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R129 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R130 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R131 | 1-218-829-11 | s | METAL, CHIP 180 0.5% 1/16W |
| R132 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R133 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R134 | 1-218-877-11 | s | METAL, CHIP 18K 0.5% 1/16W |
| R135 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R136 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R137 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R138 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R139 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R140 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R141 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R142 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R143 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R144 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R145 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R146 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R147 | 1-211-979-11 | s | METAL, CHIP 27 0.5% 1/16W |
| R148 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R149 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R151 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R152 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R153 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R154 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R155 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R156 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R157 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R158 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R159 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R160 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R161 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R162 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R163 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R164 | 1-218-848-11 | s | METAL, CHIP 1.1K 0.5% 1/16W |
| R165 | 1-218-833-11 | s | METAL, CHIP 270 0.5% 1/16W |
| R166 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R167 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R168 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R169 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R171 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R172 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R173 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R174 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R175 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R176 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R178 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R179 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R180 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R181 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R182 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R183 | 1-218-849-11 | s | METAL, CHIP 1.2K 0.5% 1/16W |
| R184 | 1-211-969-11 | s | METAL, CHIP 10 0.5% 1/16W |
| R185 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R186 | 1-218-841-11 | s | METAL, CHIP 560 0.5% 1/16W |
| R187 | 1-218-865-11 | s | METAL, CHIP 5.6K 0.5% 1/16W |
| R188 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R189 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R190 | 1-218-849-11 | s | METAL, CHIP 1.2K 0.5% 1/16W |
| R191 | 1-211-969-11 | s | METAL, CHIP 10 0.5% 1/16W |
| R192 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R193 | 1-218-841-11 | s | METAL, CHIP 560 0.5% 1/16W |
| R194 | 1-218-865-11 | s | METAL, CHIP 5.6K 0.5% 1/16W |
| R195 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R201 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R203 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R204 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R205 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R206 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R207 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R208 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R209 | 1-218-873-11 | s | METAL, CHIP 12K 0.5% 1/16W |
| R210 | 1-218-873-11 | s | METAL, CHIP 12K 0.5% 1/16W |
| R211 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R212 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R215 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R216 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R217 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R218 | 1-218-858-11 | s | METAL, CHIP 3K 0.5% 1/16W |
| R219 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R220 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R222 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R224 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R225 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R226 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R227 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R228 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R229 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R232 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R233 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R234 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R235 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R236 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R238 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R239 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R240 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R241 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R242 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R243 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R244 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R245 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R251 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R252 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R261 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R262 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R263 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R264 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R266 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R267 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R268 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R269 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R271 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R272 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R273 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R274 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R281 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R282 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R283 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R284 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R285 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R286 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R287 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R291 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R292 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R293 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R308 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R309 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R310 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R311 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R312 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R313 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R314 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R315 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R316 | 1-216-824-11 | s | METAL, CHIP 1.8K 5% 1/16W |
| R318 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R325 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R326 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R327 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R328 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R329 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R330 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R331 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R332 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R333 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R334 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R335 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R336 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R337 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R338 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R345 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R346 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R347 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R348 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R349 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R350 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R351 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R352 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R353 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R354 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R355 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R356 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R357 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R358 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R359 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R360 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R361 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |
| R362 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R363 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R364 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |
| R365 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R366 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R367 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |

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| Ref. No.<br>or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R368 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R369 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R370 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R371 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R372 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R373 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R374 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R375 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R376 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R377 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R378 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R379 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R381 | 1-218-859-11 | s | METAL, CHIP 3.3K 0.5% 1/16W |
| R382 | 1-218-859-11 | s | METAL, CHIP 3.3K 0.5% 1/16W |
| R383 | 1-218-855-11 | s | METAL, CHIP 2.2K 0.5% 1/16W |
| R384 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R385 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R386 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R387 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R401 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R402 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R403 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R404 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R405 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R406 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R407 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R408 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R409 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R410 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R411 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R412 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R413 | 1-216-813-11 | s | METAL, CHIP 220 5% 1/16W |
| R414 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R415 | 1-216-830-11 | s | METAL, CHIP 5.6K 5% 1/16W |
| R416 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R417 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R418 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R419 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R420 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R421 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R422 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R423 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R424 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R425 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R426 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R427 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R428 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R429 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R430 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R431 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R432 | 1-216-830-11 | s | METAL, CHIP 5.6K 5% 1/16W |
| R433 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R434 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R435 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R436 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R437 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R438 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R439 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R440 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |

(DAD-33 BOARD(PCS-G510))

| Ref. No.<br>or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R441 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R442 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R443 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R444 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R445 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R446 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R447 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R448 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R449 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R450 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R451 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R452 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R453 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R454 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R455 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R456 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R457 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R458 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R459 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R460 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R461 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R462 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R463 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R464 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R465 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R466 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R467 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R468 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R469 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R470 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R471 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R472 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R473 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R474 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R475 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R476 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R477 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R478 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R479 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R480 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R481 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R482 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R483 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R484 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R485 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R486 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R487 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R488 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R489 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R494 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R495 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R501 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R502 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R503 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R504 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R505 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R506 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R507 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R508 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |

(DAD-33 BOARD(PCS-G510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R509 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R510 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R511 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R512 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R513 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R514 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R515 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R516 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R517 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R518 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R519 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R520 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R521 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R522 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R523 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R524 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R525 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R526 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R527 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R528 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R529 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| RB501 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB502 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB503 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB504 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB505 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB506 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB507 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB508 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB509 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB510 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB511 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB512 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB513 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB514 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB515 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB516 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB517 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB518 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB519 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RV1 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV2 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV3 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV7 | 1-238-853-11 | s | RES, ADJ, METAL 1K |
| RV8 | 1-238-853-11 | s | RES, ADJ, METAL 1K |
| TH1 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TH2 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TH3 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TP6 | 1-535-757-11 | s | CHIP, CHECKER |
| TP7 | 1-535-757-11 | s | CHIP, CHECKER |
| TP8 | 1-535-757-11 | s | CHIP, CHECKER |
| TP9 | 1-535-757-11 | s | CHIP, CHECKER |
| TP10 | 1-535-757-11 | s | CHIP, CHECKER |
| TP11 | 1-535-757-11 | s | CHIP, CHECKER |
| TP12 | 1-535-757-11 | s | CHIP, CHECKER |
| TP13 | 1-535-757-11 | s | CHIP, CHECKER |
| TP14 | 1-535-757-11 | s | CHIP, CHECKER |
| TP15 | 1-535-757-11 | s | CHIP, CHECKER |

(DAD-33 BOARD(PCS-G510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| TP16 | 1-535-757-11 | s | CHIP, CHECKER |
| TP17 | 1-535-757-11 | s | CHIP, CHECKER |
| TP18 | 1-535-757-11 | s | CHIP, CHECKER |
| TP19 | 1-535-757-11 | s | CHIP, CHECKER |
| TP20 | 1-535-757-11 | s | CHIP, CHECKER |
| TP21 | 1-535-757-11 | s | CHIP, CHECKER |
| TP22 | 1-535-757-11 | s | CHIP, CHECKER |
| TP23 | 1-535-757-11 | s | CHIP, CHECKER |
| TP24 | 1-535-757-11 | s | CHIP, CHECKER |
| TP25 | 1-535-757-11 | s | CHIP, CHECKER |
| TP26 | 1-535-757-11 | s | CHIP, CHECKER |
| TP27 | 1-535-757-11 | s | CHIP, CHECKER |
| TP28 | 1-535-757-11 | s | CHIP, CHECKER |
| TP29 | 1-535-757-11 | s | CHIP, CHECKER |
| TP30 | 1-535-757-11 | s | CHIP, CHECKER |
| TP31 | 1-535-757-11 | s | CHIP, CHECKER |
| TP32 | 1-535-757-11 | s | CHIP, CHECKER |
| TP33 | 1-535-757-11 | s | CHIP, CHECKER |
| TP34 | 1-535-757-11 | s | CHIP, CHECKER |
| TP35 | 1-535-757-11 | s | CHIP, CHECKER |
| TP36 | 1-535-757-11 | s | CHIP, CHECKER |
| TP37 | 1-535-757-11 | s | CHIP, CHECKER |
| TP38 | 1-535-757-11 | s | CHIP, CHECKER |
| TP39 | 1-535-757-11 | s | CHIP, CHECKER |
| TP40 | 1-535-757-11 | s | CHIP, CHECKER |
| X3 | 1-579-063-21 | s | RESONATOR, CERAMIC 4.19000MHz |

## DAD-33P BOARD(PCS-G510P)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-649-09 | s | SCREW +PS 3X10 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| 1pc | 7-685-871-01 | s | SCREW +BVTT 3X6 (S) |
| C3 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C4 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C5 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C101 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C102 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C103 | 1-115-155-11 | s | ELECT 22uF 20% 16V |
| C104 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C105 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C106 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C107 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C108 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C109 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C110 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C111 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C112 | 1-162-907-11 | s | CERAMIC, CHIP 2PF 50V |
| C113 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C114 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C115 | 1-162-922-11 | s | CERAMIC, CHIP 39PF 5% 50V |
| C116 | 1-162-922-11 | s | CERAMIC, CHIP 39PF 5% 50V |
| C121 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C122 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C123 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C124 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C125 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C126 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C127 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C128 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C129 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C130 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C131 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C132 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C201 | 1-126-402-11 | s | ELECT, CHIP 2.2uF 20% 50V |
| C202 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C203 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C204 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C205 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C206 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C207 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C208 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C209 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C210 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C211 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C212 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C214 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C215 | 1-164-227-11 | s | CERAMIC, CHIP 0.022uF 10% 25V |
| C216 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C217 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C218 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C219 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C221 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C223 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C224 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C225 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C226 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C227 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C229 | 1-162-959-11 | s | CERAMIC, CHIP 330PF 5% 50V |
| C230 | 1-115-340-11 | s | CERAMIC 0.22uF 10% 25V |
| C231 | 1-107-826-91 | s | CERAMIC 0.1uF 10% 16V |
| C232 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C233 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C251 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C252 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C253 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C254 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C255 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C256 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C261 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C262 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C302 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C303 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C305 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C306 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C307 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C308 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C309 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C310 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C311 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C312 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C313 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C314 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C315 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C316 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C317 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C318 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C319 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C320 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C321 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C322 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C323 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C324 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C325 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C326 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C327 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C328 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C329 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C330 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C331 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C332 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C333 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C334 | 1-162-915-11 | s | CERAMIC, CHIP 10PF 50V |
| C335 | 1-162-966-11 | s | CERAMIC, CHIP 0.0022uF 10% 50V |
| C337 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C338 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C339 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C340 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C341 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C342 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C343 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C344 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C345 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C346 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C347 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C348 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C349 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C350 | 1-162-970-11 | s | CERAMIC, CHIP 0.01uF 10% 25V |
| C351 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C352 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C353 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C381 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C382 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C383 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C384 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C385 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C386 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C387 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C388 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C401 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C402 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C403 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C404 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C405 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C406 | 1-162-964-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C407 | 1-162-964-11 | s | CERAMIC, CHIP 0.001uF 10% 50V |
| C408 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C409 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C410 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C411 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C412 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C413 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C414 | 1-162-917-11 | s | CERAMIC, CHIP 15PF 5% 50V |
| C415 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C416 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C417 | 1-126-400-11 | s | ELECT, CHIP 22uF 20% 35V |
| C418 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C419 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C420 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C421 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C422 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C423 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C424 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C425 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C426 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C427 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C428 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C429 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C430 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C431 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C432 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C433 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C500 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C501 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C502 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C503 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C504 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C505 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C506 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C507 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C508 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C509 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C510 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C511 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C512 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C513 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C514 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C515 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C516 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C517 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C518 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C519 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C520 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C521 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C522 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C523 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C524 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C525 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C526 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C527 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C528 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C529 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C530 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C531 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C532 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C533 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C534 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C535 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C536 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C537 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C613 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C614 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C615 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C616 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C619 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| CN2 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN3 | 1-764-642-11 | o | CONNECTOR, D-SUB 15P, FEMALE |
| CN4 | 1-566-848-11 | s | CONNECTOR, CIRCULAR 4P(S), FEMALE |
| CN5 | 1-764-642-11 | o | CONNECTOR, D-SUB 15P, FEMALE |
| CN6 | 1-691-591-11 | o | CONNECTOR 8P, MALE |
| D1 | 8-719-041-79 | s | DIODE MA721WA-TX |
| E1 | 1-535-757-11 | s | CHIP, CHECKER |
| E2 | 1-535-757-11 | s | CHIP, CHECKER |
| E3 | 1-535-757-11 | s | CHIP, CHECKER |
| E11 | 1-535-757-11 | s | CHIP, CHECKER |
| E12 | 1-535-757-11 | s | CHIP, CHECKER |
| E13 | 1-535-757-11 | s | CHIP, CHECKER |
| FL2 | 1-239-755-11 | s | FILTER, LOW-PASS |
| FL3 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL4 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL5 | 1-233-424-11 | s | FILTER, LOW-PASS |
| FL6 | 1-239-636-11 | s | FILTER, LOW-PASS |
| FL7 | 1-239-636-11 | s | FILTER, LOW-PASS |
| FL11 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL12 | 1-239-290-11 | s | FILTER, LOW-PASS |
| FL101 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL102 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL103 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL104 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL105 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL106 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL107 | 1-239-825-31 | s | FILTER, CHIP EMI |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| FL108 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL109 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL110 | 1-233-316-31 | s | FILTER, CHIP EMI |
| FL111 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL112 | 1-239-825-31 | s | FILTER, CHIP EMI |
| IC10 | 8-759-561-64 | s | IC ISPLSI1016E-80LT44-RAP00V1 |
| IC11 | 8-752-073-52 | s | IC CXA2016S |
| IC12 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC13 | 8-759-295-09 | s | IC TLC2932IPW |
| IC14 | 8-759-239-55 | s | IC TC74HC123AF |
| IC15 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC16 | 8-759-081-44 | s | IC TC74VHC04F(EL) |
| IC17 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC18 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC19 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC20 | 8-759-186-53 | s | IC TC74VHC163F(EL) |
| IC21 | 8-759-271-04 | s | IC LT1252CS8 |
| IC22 | 8-752-371-18 | s | IC CXD2302Q |
| IC23 | 8-752-371-18 | s | IC CXD2302Q |
| IC24 | 8-752-371-18 | s | IC CXD2302Q |
| IC25 | 8-759-931-56 | s | IC SN74LS684NS-E05 |
| IC26 | 8-759-268-95 | s | IC SN74HCT00ANS-E05 |
| IC27 | 8-759-239-25 | s | IC TC74HC4066AF |
| IC31 | 8-752-380-71 | s | IC CXD1913Q |
| IC32 | 8-752-870-04 | s | IC CXP5068H-242Q |
| IC36 | 8-759-239-58 | s | IC TC74HC221AF |
| IC37 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| IC41 | 8-759-701-59 | s | IC NJM78M09FA |
| IC42 | 8-759-069-28 | s | IC PQ05RF11 |
| IC43 | 8-759-701-87 | s | IC NJM7909FA |
| IC101 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC102 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC103 | 8-759-926-52 | s | IC SN74HC257NS |
| IC104 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC105 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC106 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC107 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC108 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC109 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC110 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC111 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC112 | 8-759-186-26 | s | IC TC74VHC02F(EL) |
| IC113 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC114 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC115 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC116 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC117 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC118 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC119 | 8-759-561-63 | s | IC ISPLSI1032E-70LT-RAP03V1 |
| IC120 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC121 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC122 | 8-759-926-69 | s | IC SN74HC377ANS |
| IC123 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC124 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC125 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC126 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC127 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC128 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC129 | 8-759-174-16 | s | IC TC74VHC244F(EL) |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC130 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC131 | 8-759-037-79 | s | IC SN74HC163ANS-E05 |
| IC132 | 8-759-186-39 | s | IC TC74VHC74F(EL) |
| IC133 | 8-759-186-26 | s | IC TC74VHC02F(EL) |
| IC134 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC135 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| IC136 | 8-759-447-77 | s | IC TC7WH74FU(TE12R) |
| IC137 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| JC101 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC103 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC105 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC108 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC109 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC501 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC502 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC506 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC508 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC509 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| L4 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L5 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L6 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L7 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| L8 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L9 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L10 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L11 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L12 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L13 | 1-408-777-00 | s | INDUCTOR, CHIP 10uH |
| L14 | 1-408-785-21 | s | INDUCTOR, CHIP 47uH |
| Q11 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q12 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q13 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q14 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q15 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q16 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q17 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q19 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q20 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q21 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q22 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q23 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q24 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q25 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q26 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q27 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q28 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q29 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q30 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q31 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q32 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q33 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q34 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q35 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q36 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q37 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q38 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q39 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q41 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q42 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q44 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q45 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q46 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q47 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q48 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q49 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q53 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q54 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q55 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q56 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q57 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q58 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q59 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q60 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q61 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q64 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q65 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q66 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q67 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q68 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q69 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q70 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q71 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q72 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q73 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q74 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q75 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q78 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q79 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q80 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q81 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q82 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q83 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q84 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q85 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q86 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q87 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q88 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q89 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q90 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q91 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q92 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q101 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q102 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q103 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q104 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q105 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q106 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q107 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q108 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q109 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q110 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q111 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q112 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q113 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q114 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q115 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q116 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| Q117 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q118 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q119 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q120 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q121 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q122 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q123 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q124 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q125 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q126 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q127 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q128 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q129 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q130 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q131 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q132 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q133 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q134 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q135 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q136 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q137 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q138 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q139 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q140 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q141 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q142 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q143 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| Q144 | 8-729-117-32 | s | TRANSISTOR 2SC4177 |
| Q145 | 8-729-140-63 | s | TRANSISTOR 2SA1611-M5M6 |
| R31 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R32 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R41 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R45 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R54 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R55 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R100 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R101 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R102 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R103 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R104 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R105 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R106 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R107 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R108 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R109 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R110 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R111 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R112 | 1-211-990-11 | s | METAL, CHIP 75 0.5% 1/16W |
| R113 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R114 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R115 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R116 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R117 | 1-211-979-11 | s | METAL, CHIP 27 0.5% 1/16W |
| R118 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R119 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R120 | 1-218-848-11 | s | METAL, CHIP 1.1K 0.5% 1/16W |
| R121 | 1-218-833-11 | s | METAL, CHIP 270 0.5% 1/16W |
| R122 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R123 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R124 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R125 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R126 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R127 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R128 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R129 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R130 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R131 | 1-218-829-11 | s | METAL, CHIP 180 0.5% 1/16W |
| R132 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R133 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R134 | 1-218-877-11 | s | METAL, CHIP 18K 0.5% 1/16W |
| R135 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R136 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R137 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R138 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R139 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R140 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R141 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R142 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R143 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R144 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R145 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R146 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R147 | 1-211-979-11 | s | METAL, CHIP 27 0.5% 1/16W |
| R148 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R149 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R151 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R152 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R153 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R154 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R155 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R156 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R157 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R158 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R159 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R160 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R161 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R162 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R163 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R164 | 1-218-848-11 | s | METAL, CHIP 1.1K 0.5% 1/16W |
| R165 | 1-218-833-11 | s | METAL, CHIP 270 0.5% 1/16W |
| R166 | 1-218-832-11 | s | METAL, CHIP 240 0.5% 1/16W |
| R167 | 1-211-973-11 | s | METAL, CHIP 15 0.5% 1/16W |
| R168 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R169 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R171 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R172 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R173 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R174 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R175 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R176 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R178 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R179 | 1-218-839-11 | s | METAL, CHIP 470 0.5% 1/16W |
| R180 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R181 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R182 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R183 | 1-218-849-11 | s | METAL, CHIP 1.2K 0.5% 1/16W |
| R184 | 1-211-969-11 | s | METAL, CHIP 10 0.5% 1/16W |
| R185 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R186 | 1-218-841-11 | s | METAL, CHIP 560 0.5% 1/16W |
| R187 | 1-218-865-11 | s | METAL, CHIP 5.6K 0.5% 1/16W |
| R188 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R189 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R190 | 1-218-849-11 | s | METAL, CHIP 1.2K 0.5% 1/16W |
| R191 | 1-211-969-11 | s | METAL, CHIP 10 0.5% 1/16W |
| R192 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R193 | 1-218-841-11 | s | METAL, CHIP 560 0.5% 1/16W |
| R194 | 1-218-865-11 | s | METAL, CHIP 5.6K 0.5% 1/16W |
| R195 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R201 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R203 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R204 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R205 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R206 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R207 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R208 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R209 | 1-218-873-11 | s | METAL, CHIP 12K 0.5% 1/16W |
| R210 | 1-218-873-11 | s | METAL, CHIP 12K 0.5% 1/16W |
| R211 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R212 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R215 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R216 | 1-216-836-11 | s | METAL, CHIP 18K 5% 1/16W |
| R217 | 1-216-826-11 | s | METAL, CHIP 2.7K 5% 1/16W |
| R218 | 1-218-858-11 | s | METAL, CHIP 3K 0.5% 1/16W |
| R219 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R220 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R222 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R224 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R225 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R226 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R227 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R228 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R229 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R232 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R233 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R234 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R235 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R236 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R238 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R239 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R240 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R241 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R242 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R243 | 1-216-849-11 | s | METAL, CHIP 220K 5% 1/16W |
| R244 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R245 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R251 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R252 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R261 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R262 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R263 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R264 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R266 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R267 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R268 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R269 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R271 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R272 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R273 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R274 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R281 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R282 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R283 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R284 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R285 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R286 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R287 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R291 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R292 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R293 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R308 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R309 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R310 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R311 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R312 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R313 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R314 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R315 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R316 | 1-216-824-11 | s | METAL, CHIP 1.8K 5% 1/16W |
| R318 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R325 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R326 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R327 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R328 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R329 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R330 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R331 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R332 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R333 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R334 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R335 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R336 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R337 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R338 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R345 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R346 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R347 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R348 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R349 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R350 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R351 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R352 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R353 | 1-216-814-11 | s | METAL, CHIP 270 5% 1/16W |
| R354 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R355 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R356 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R357 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R358 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R359 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R360 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R361 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |
| R362 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R363 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R364 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |
| R365 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R366 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R367 | 1-216-831-11 | s | METAL, CHIP 6.8K 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R368 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R369 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R370 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R371 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R372 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R373 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R374 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R375 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R376 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R377 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R378 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R379 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R381 | 1-218-859-11 | s | METAL, CHIP 3.3K 0.5% 1/16W |
| R382 | 1-218-859-11 | s | METAL, CHIP 3.3K 0.5% 1/16W |
| R383 | 1-218-855-11 | s | METAL, CHIP 2.2K 0.5% 1/16W |
| R384 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R385 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R386 | 1-218-830-11 | s | METAL, CHIP 200 0.5% 1/16W |
| R387 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R401 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R402 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R403 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R404 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R405 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R406 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R407 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R408 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R409 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R410 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R411 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R412 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R413 | 1-216-813-11 | s | METAL, CHIP 220 5% 1/16W |
| R414 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R415 | 1-216-830-11 | s | METAL, CHIP 5.6K 5% 1/16W |
| R416 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R417 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R418 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R419 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R420 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R421 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R422 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R423 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R424 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R425 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R426 | 1-218-847-11 | s | METAL, CHIP 1K 0.5% 1/16W |
| R427 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R428 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R429 | 1-216-815-11 | s | METAL, CHIP 330 5% 1/16W |
| R430 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R431 | 1-216-823-11 | s | METAL, CHIP 1.5K 5% 1/16W |
| R432 | 1-216-830-11 | s | METAL, CHIP 5.6K 5% 1/16W |
| R433 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R434 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R435 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R436 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R437 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R438 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R439 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R440 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R441 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R442 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R443 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R444 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R445 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R446 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R447 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R448 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R449 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R450 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R451 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R452 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R453 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R454 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R455 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R456 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R457 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R458 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R459 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R460 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R461 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R462 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R463 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R464 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R465 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R466 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R467 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R468 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R469 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R470 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R471 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R472 | 1-216-827-11 | s | METAL, CHIP 3.3K 5% 1/16W |
| R473 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R474 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R475 | 1-218-835-11 | s | METAL, CHIP 330 0.5% 1/16W |
| R476 | 1-218-850-11 | s | METAL, CHIP 1.3K 0.5% 1/16W |
| R477 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R478 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R479 | 1-216-817-11 | s | METAL, CHIP 470 5% 1/16W |
| R480 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R481 | 1-216-839-11 | s | METAL, CHIP 33K 5% 1/16W |
| R482 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R483 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R484 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R485 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R486 | 1-211-989-11 | s | METAL, CHIP 68 0.5% 1/16W |
| R487 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R488 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R489 | 1-218-825-11 | s | METAL, CHIP 120 0.5% 1/16W |
| R494 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R495 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R501 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R502 | 1-216-789-11 | s | METAL, CHIP 2.2 5% 1/16W |
| R503 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R504 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R505 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R506 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R507 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R508 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |

(DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R509 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R510 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R511 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R512 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R513 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R514 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R515 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R516 | 1-216-809-11 | s | METAL, CHIP 100 5% 1/16W |
| R517 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R518 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R519 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R520 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R521 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R522 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R523 | 1-216-807-11 | s | METAL, CHIP 68 5% 1/16W |
| R524 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R525 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R526 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R527 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R528 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R529 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| RB501 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB502 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB503 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB504 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB505 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB506 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB507 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB508 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB509 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB510 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB511 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB512 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB513 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB514 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB515 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB516 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB517 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB518 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB519 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RV1 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV2 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV3 | 1-238-852-11 | s | RES, ADJ, METAL 470 |
| RV7 | 1-238-853-11 | s | RES, ADJ, METAL 1K |
| RV8 | 1-238-853-11 | s | RES, ADJ, METAL 1K |
| TH1 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TH2 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TH3 | 1-810-106-11 | s | THERMISTOR, POSITIVE LINEAR |
| TP6 | 1-535-757-11 | s | CHIP, CHECKER |
| TP7 | 1-535-757-11 | s | CHIP, CHECKER |
| TP8 | 1-535-757-11 | s | CHIP, CHECKER |
| TP9 | 1-535-757-11 | s | CHIP, CHECKER |
| TP10 | 1-535-757-11 | s | CHIP, CHECKER |
| TP11 | 1-535-757-11 | s | CHIP, CHECKER |
| TP12 | 1-535-757-11 | s | CHIP, CHECKER |
| TP13 | 1-535-757-11 | s | CHIP, CHECKER |
| TP14 | 1-535-757-11 | s | CHIP, CHECKER |
| TP15 | 1-535-757-11 | s | CHIP, CHECKER |

## (DAD-33P BOARD(PCS-G510P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| TP16 | 1-535-757-11 | s | CHIP, CHECKER |
| TP17 | 1-535-757-11 | s | CHIP, CHECKER |
| TP18 | 1-535-757-11 | s | CHIP, CHECKER |
| TP19 | 1-535-757-11 | s | CHIP, CHECKER |
| TP20 | 1-535-757-11 | s | CHIP, CHECKER |
| TP21 | 1-535-757-11 | s | CHIP, CHECKER |
| TP22 | 1-535-757-11 | s | CHIP, CHECKER |
| TP23 | 1-535-757-11 | s | CHIP, CHECKER |
| TP24 | 1-535-757-11 | s | CHIP, CHECKER |
| TP25 | 1-535-757-11 | s | CHIP, CHECKER |
| TP26 | 1-535-757-11 | s | CHIP, CHECKER |
| TP27 | 1-535-757-11 | s | CHIP, CHECKER |
| TP28 | 1-535-757-11 | s | CHIP, CHECKER |
| TP29 | 1-535-757-11 | s | CHIP, CHECKER |
| TP30 | 1-535-757-11 | s | CHIP, CHECKER |
| TP31 | 1-535-757-11 | s | CHIP, CHECKER |
| TP32 | 1-535-757-11 | s | CHIP, CHECKER |
| TP33 | 1-535-757-11 | s | CHIP, CHECKER |
| TP34 | 1-535-757-11 | s | CHIP, CHECKER |
| TP35 | 1-535-757-11 | s | CHIP, CHECKER |
| TP36 | 1-535-757-11 | s | CHIP, CHECKER |
| TP37 | 1-535-757-11 | s | CHIP, CHECKER |
| TP38 | 1-535-757-11 | s | CHIP, CHECKER |
| TP39 | 1-535-757-11 | s | CHIP, CHECKER |
| TP40 | 1-535-757-11 | s | CHIP, CHECKER |
| X3 | 1-579-063-21 | s | RESONATOR, CERAMIC 4.19000MHz |

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## IF-540 BOARD(PCS-P500)

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8272-637-A | o | MOUNTED CIRCUIT BOARD, IF-540 |
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C1 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C2 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C3 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C4 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C6 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C8 | 1-126-395-11 | s | ELECT, CHIP 22uF 20% 16V |
| C40 | 1-135-176-21 | s | TANTALUM, CHIP 0.68uF 20% 35V |
| C41 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C100 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C101 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C104 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C105 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C106 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C107 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C108 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C109 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C110 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C111 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C112 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C113 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C114 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C115 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C116 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C117 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C118 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C119 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C120 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C121 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C122 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C123 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C124 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C125 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C126 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C127 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C128 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C130 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C131 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C132 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C134 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C135 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C136 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C137 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C138 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C139 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C204 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C207 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C210 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C304 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C307 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C310 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| CN1 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN2 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN3 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |
| CN4 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |
| CN5 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |

(IF-540 BOARD(PCS-P500))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| CN6 | 1-750-874-21 | s | CONNECTOR, BB 60P, MALE |
| CNI5 | 1-540-151-21 | s | SOCKET, IC 32P |
| CNI8 | 1-540-151-21 | s | SOCKET, IC 32P |
| CNI11 | 1-540-151-21 | s | SOCKET, IC 32P |
| D1 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D2 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D3 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D4 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D5 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D6 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D7 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D8 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D9 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D10 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D11 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D12 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D13 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D14 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D15 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D16 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D17 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D18 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D19 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D20 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D21 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D22 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D23 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D24 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D25 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D26 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D27 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D28 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D29 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D30 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D31 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D32 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D33 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D34 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D35 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D36 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D37 | 8-719-801-36 | s | DIODE 1G4B42 |
| D38 | 8-719-801-36 | s | DIODE 1G4B42 |
| D39 | 8-719-801-36 | s | DIODE 1G4B42 |
| D43 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D44 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D45 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D46 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D47 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| D48 | 8-719-107-58 | s | DIODE 1S953-7-T1 |
| IC1 | ⚠ 8-749-012-09 | s | IC TLP553 |
| IC2 | ⚠ 8-749-012-09 | s | IC TLP553 |
| IC3 | ⚠ 8-749-012-09 | s | IC TLP553 |
| IC4 | 8-759-361-88 | s | IC HD81504FE |
| IC5 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC6 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC7 | 8-759-361-88 | s | IC HD81504FE |
| IC8 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC9 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |

(IF-540 BOARD(PCS-P500))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC10 | 8-759-361-88 | s | IC HD81504FE |
| IC11 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC12 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC13 | 8-759-925-76 | s | IC SN74HC08ANS |
| IC14 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC15 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC16 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC17 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC18 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC19 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC20 | 8-759-926-11 | s | IC SN74HC138ANS |
| IC21 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC22 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC23 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC24 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC25 | 8-759-926-48 | s | IC SN74HC244NS |
| IC26 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC27 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC28 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC30 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC31 | 8-759-916-23 | s | IC SN74HC27N |
| IC32 | 8-759-925-72 | s | IC SN74HC02ANS |
| IC34 | 8-759-925-80 | s | IC SN74HC14ANS |
| IC35 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC36 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC37 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC38 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC39 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC40 | 8-759-973-71 | s | IC TL7705CPS-B |
| JC3 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC6 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC9 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC11 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC12 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC13 | 1-216-295-91 | s | METAL, CHIP 0 |
| LF1 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| LF2 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| LF3 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| Q1 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| Q2 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| Q3 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| Q4 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| R1 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |
| R2 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R3 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |
| R4 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R6 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R7 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R9 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |
| R10 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R11 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |
| R12 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R14 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R15 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R17 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |
| R18 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R19 | 1-216-613-11 | s | METAL, CHIP 27 0.5% 1/10W |

| Ref. No.<br>or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R20 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R22 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R23 | 1-216-667-11 | s | METAL, CHIP 4.7K 0.5% 1/10W |
| R25 | 1-216-123-11 | s | METAL, CHIP 1.2M 5% 1/10W |
| R27 | 1-216-123-11 | s | METAL, CHIP 1.2M 5% 1/10W |
| R29 | 1-216-123-11 | s | METAL, CHIP 1.2M 5% 1/10W |
| R31 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R32 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R33 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R49 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R50 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R51 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R52 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R53 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R54 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R55 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R56 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R57 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R58 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R59 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R60 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R61 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R62 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R63 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R64 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R65 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R66 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R67 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R68 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R69 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R70 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R71 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R72 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R73 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R83 | 1-216-065-91 | s | METAL, CHIP 4.7K 5% 1/10W |
| R92 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R94 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R96 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R98 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R107 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R108 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R109 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R110 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R111 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R112 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R113 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R114 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R115 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R116 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R117 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R118 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| RB1 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB2 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB3 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB4 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB5 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB6 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB7 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB8 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB9 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB10 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB11 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB12 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB13 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB14 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB15 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB16 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| SW1 | 1-570-619-11 | s | SWITCH, DIP 3-CKT |
| T1 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T2 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T3 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T4 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T5 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T6 | ⚠ 1-429-577-11 | s | TRANSFORMER, INPUT/OUTPUT |
| VDR1 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR2 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR3 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR4 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR5 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR6 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR7 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR8 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR9 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR10 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR11 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |
| VDR12 | 1-810-263-11 | s | VARISTOR ERZ-C05DK271U |

## IF-540P BOARD(PCS-P500P)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8272-623-B | o | MOUNTED CIRCUIT BOARD, IF-540P |
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C1 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C2 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C3 | 1-163-038-91 | s | CERAMIC 0.1uF 25V |
| C40 | 1-135-176-21 | s | TANTALUM, CHIP 0.68uF 20% 35V |
| C41 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C100 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C101 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C104 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C105 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C106 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C107 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C108 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C109 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C110 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C111 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C112 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C113 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C114 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C115 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C116 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C117 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C118 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C119 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C120 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C121 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C122 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C123 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C124 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C125 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C126 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C127 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C128 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C130 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C131 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C132 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C135 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C136 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C137 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C138 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C139 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C204 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C207 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C210 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C304 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C307 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C310 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| CN1 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN2 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN3 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |
| CN4 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |
| CN5 | 1-750-944-11 | s | JACK, MODULAR (8P-8C), FEMALE |
| CN6 | 1-750-874-21 | s | CONNECTOR, BB 60P, MALE |
| CNI5 | 1-540-151-21 | s | SOCKET, IC 32P |
| CNI8 | 1-540-151-21 | s | SOCKET, IC 32P |

(IF-540P BOARD(PCS-P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| CNI11 | 1-540-151-21 | s | SOCKET, IC 32P |
| D1 | 8-719-800-76 | s | DIODE 1SS226 |
| D2 | 8-719-800-76 | s | DIODE 1SS226 |
| D3 | 8-719-800-76 | s | DIODE 1SS226 |
| D4 | 8-719-800-76 | s | DIODE 1SS226 |
| D5 | 8-719-800-76 | s | DIODE 1SS226 |
| D6 | 8-719-800-76 | s | DIODE 1SS226 |
| D7 | 8-719-800-76 | s | DIODE 1SS226 |
| D8 | 8-719-800-76 | s | DIODE 1SS226 |
| D9 | 8-719-800-76 | s | DIODE 1SS226 |
| D10 | 8-719-800-76 | s | DIODE 1SS226 |
| D11 | 8-719-800-76 | s | DIODE 1SS226 |
| D12 | 8-719-800-76 | s | DIODE 1SS226 |
| D13 | 8-719-800-76 | s | DIODE 1SS226 |
| D14 | 8-719-800-76 | s | DIODE 1SS226 |
| D15 | 8-719-800-76 | s | DIODE 1SS226 |
| D16 | 8-719-800-76 | s | DIODE 1SS226 |
| D17 | 8-719-800-76 | s | DIODE 1SS226 |
| D18 | 8-719-800-76 | s | DIODE 1SS226 |
| D19 | 8-719-800-76 | s | DIODE 1SS226 |
| D20 | 8-719-800-76 | s | DIODE 1SS226 |
| D21 | 8-719-800-76 | s | DIODE 1SS226 |
| D22 | 8-719-800-76 | s | DIODE 1SS226 |
| D23 | 8-719-800-76 | s | DIODE 1SS226 |
| D24 | 8-719-800-76 | s | DIODE 1SS226 |
| D25 | 8-719-800-76 | s | DIODE 1SS226 |
| D26 | 8-719-800-76 | s | DIODE 1SS226 |
| D27 | 8-719-800-76 | s | DIODE 1SS226 |
| D28 | 8-719-800-76 | s | DIODE 1SS226 |
| D29 | 8-719-800-76 | s | DIODE 1SS226 |
| D30 | 8-719-800-76 | s | DIODE 1SS226 |
| D31 | 8-719-800-76 | s | DIODE 1SS226 |
| D32 | 8-719-800-76 | s | DIODE 1SS226 |
| D33 | 8-719-800-76 | s | DIODE 1SS226 |
| D34 | 8-719-800-76 | s | DIODE 1SS226 |
| D35 | 8-719-800-76 | s | DIODE 1SS226 |
| D36 | 8-719-800-76 | s | DIODE 1SS226 |
| IC4 | 8-759-396-70 | s | IC HD81504RFE |
| IC5 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC6 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC7 | 8-759-396-70 | s | IC HD81504RFE |
| IC8 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC9 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC10 | 8-759-396-70 | s | IC HD81504RFE |
| IC11 | 8-759-577-44 | o | IC M27C256B-12C1-BRIV3.2 |
| IC12 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC13 | 8-759-925-76 | s | IC SN74HC08ANS |
| IC14 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC15 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC16 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC17 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC18 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC19 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC20 | 8-759-926-11 | s | IC SN74HC138ANS |
| IC21 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC22 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC23 | 8-759-925-90 | s | IC SN74HC74ANS |

(IF-540P BOARD(PCS-P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC24 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC25 | 8-759-926-48 | s | IC SN74HC244NS |
| IC26 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC27 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC28 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC30 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC31 | 8-759-916-23 | s | IC SN74HC27N |
| IC32 | 8-759-925-72 | s | IC SN74HC02ANS |
| IC35 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC36 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC37 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC38 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC39 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC40 | 8-759-973-71 | s | IC TL7705CPS-B |
| LF1 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| LF2 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| LF3 | ⚠ 1-239-773-11 | s | FILTER, EMI CHOKE |
| Q1 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| R1 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R2 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R3 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R4 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R6 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R7 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R9 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R10 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R11 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R12 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R14 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R15 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R17 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R18 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R19 | 1-211-960-11 | s | METAL, CHIP 24 0.5% 1/10W |
| R20 | 1-216-603-11 | s | METAL, CHIP 10 0.5% 1/10W |
| R22 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R23 | 1-208-792-11 | s | METAL, CHIP 2.7K 0.5% 1/10W |
| R49 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R50 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R51 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R52 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R53 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R54 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R55 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R56 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R57 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R58 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R59 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R60 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R61 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R62 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R63 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R64 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R65 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R66 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R67 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R68 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R69 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R70 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |

(IF-540P BOARD(PCS-P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R71 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R72 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R73 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R83 | 1-216-065-91 | s | METAL, CHIP 4.7K 5% 1/10W |
| R92 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R94 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R96 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R98 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R107 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R108 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R109 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R110 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R111 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R112 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R113 | 1-216-017-91 | s | METAL, CHIP 47 5% 1/10W |
| R114 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R115 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R116 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R117 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R118 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| RB1 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB2 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB3 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB4 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB5 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB6 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB7 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB8 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB9 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB10 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB11 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB12 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB13 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB14 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB15 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB16 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| T1 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T2 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T3 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T4 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T5 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |
| T6 | ⚠ 1-429-630-11 | s | TRANSFORMER, INPUT/OUTPUT |

## IF-541 BOARD(PCS-I510)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-621-259-55 | s | SCREW +P 2.6X8 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C101 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C102 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C103 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C104 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C105 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C106 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C107 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C108 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C109 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C110 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C111 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C112 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C113 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C114 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C115 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C116 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C117 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C118 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C119 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C120 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C121 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C122 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C123 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C124 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C125 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C126 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C127 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C128 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C129 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C130 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C131 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C132 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C133 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C134 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C135 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C136 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C137 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C138 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C139 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C140 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C209 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C309 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C500 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C501 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| CN1 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN2 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN3 | 1-774-138-11 | s | CONNECTOR 36P, FEMALE |
| CN4 | 1-774-138-11 | s | CONNECTOR 36P, FEMALE |
| CNI10 | 1-540-151-21 | s | SOCKET, IC 32P |
| FB1 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB2 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB3 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB4 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB5 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB6 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB7 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB8 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB9 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB10 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB11 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB12 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB13 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB14 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB15 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB16 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB17 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB18 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB19 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB20 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| IC1 | 8-759-930-57 | s | IC SN74LS164NS |
| IC2 | 8-759-930-57 | s | IC SN74LS164NS |
| IC3 | 8-759-930-57 | s | IC SN74LS164NS |
| IC4 | 8-759-930-57 | s | IC SN74LS164NS |
| IC5 | 8-759-931-58 | s | IC SN74LS688NS |
| IC6 | 8-759-931-58 | s | IC SN74LS688NS |
| IC7 | 8-759-931-58 | s | IC SN74LS688NS |
| IC8 | 8-759-931-58 | s | IC SN74LS688NS |
| IC9 | 8-759-361-87 | s | IC HD648180WOCP6 |
| IC10 | 8-759-549-64 | s | IC CY27C256A-120JC-X21V2 |
| IC11 | 8-759-577-64 | s | IC CY6264-70SNC-T2 |
| IC12 | 8-759-186-27 | s | IC TC74VHCT04F |
| IC13 | 8-759-185-71 | s | IC TC74VHCT74F(EL) |
| IC14 | 8-759-186-49 | s | IC TC74VHC139F |
| IC15 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC16 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC17 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC18 | 8-759-186-47 | s | IC TC74VHC138F |
| IC19 | 8-759-926-48 | s | IC SN74HC244NS |
| IC20 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC21 | 8-759-186-13 | s | IC TC74VHCT374F(EL) |
| IC22 | 8-759-099-37 | s | IC SN74HCT74ANS-E05 |
| IC23 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC24 | 8-759-099-37 | s | IC SN74HCT74ANS-E05 |
| IC25 | 8-759-186-38 | s | IC TC74VHC32F |
| IC26 | 8-759-186-38 | s | IC TC74VHC32F |
| IC27 | 8-759-925-72 | s | IC SN74HC02ANS |
| IC28 | 8-759-476-78 | s | IC MC3486NS |
| IC29 | 8-759-476-78 | s | IC MC3486NS |
| IC30 | 8-759-476-79 | s | IC MC3487NS |
| IC31 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC32 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC33 | 8-759-185-61 | s | IC TC74VHCT00F(EL) |
| IC34 | 8-759-185-61 | s | IC TC74VHCT00F(EL) |
| IC35 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC36 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC37 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC38 | 8-759-185-71 | s | IC TC74VHCT74F(EL) |
| IC39 | 8-759-926-48 | s | IC SN74HC244NS |
| IC40 | 8-759-925-90 | s | IC SN74HC74ANS |
| JC1 | 1-216-295-91 | s | METAL, CHIP 0 |
| Q1 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |

(IF-541 BOARD(PCS-I510))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R25 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R26 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R27 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R28 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R29 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R30 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R31 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R32 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R33 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R34 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R35 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R36 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R37 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R38 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R39 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R40 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R41 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R42 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R43 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R44 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R45 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R46 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R47 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R48 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R65 | 1-216-027-00 | s | METAL, CHIP 120 5% 1/10W |
| RB1 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB2 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB3 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB4 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| RB5 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |
| S1 | 1-692-270-41 | s | SWITCH, SLIDE |
| S2 | 1-692-270-41 | s | SWITCH, SLIDE |
| S3 | 1-692-270-41 | s | SWITCH, SLIDE |
| S4 | 1-692-271-31 | s | SWITCH, SLIDE |
| S5 | 1-692-271-31 | s | SWITCH, SLIDE |
| S6 | 1-692-271-31 | s | SWITCH, SLIDE |

## IF-542 BOARD(PCS-I500)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-621-259-55 | s | SCREW +P 2.6X8 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C1 | 1-126-402-11 | s | ELECT, CHIP 2.2uF 20% 50V |
| C2 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C3 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C4 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C5 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C6 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C7 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C8 | 1-164-004-11 | s | CERAMIC, CHIP 0.1uF 10% 25V |
| C104 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C111 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C112 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C117 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C118 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C119 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C120 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C122 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C123 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C125 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C126 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C127 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C128 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C129 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C130 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C131 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C132 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C133 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C134 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C135 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C201 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C202 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C203 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C204 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C205 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C206 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C207 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C208 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C209 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C210 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C211 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C212 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C213 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C214 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C215 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C216 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C217 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C218 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C219 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C220 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C221 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C222 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C223 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C224 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C225 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C226 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C227 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |

(IF-542 BOARD(PCS-I500))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C228 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C229 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C230 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C231 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C232 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C233 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C234 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C235 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C236 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C237 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C238 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C239 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C240 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C400 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C401 | 1-126-401-11 | s | ELECT, CHIP 1uF 20% 50V |
| C500 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C501 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| CN1 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN2 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN3 | 1-774-138-11 | s | CONNECTOR 36P, FEMALE |
| CN4 | 1-774-138-11 | s | CONNECTOR 36P, FEMALE |
| FB1 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB2 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB3 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB4 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB5 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB6 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB7 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB8 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB9 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB10 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB11 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB12 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB13 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB14 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB15 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB16 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB17 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB18 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB19 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB20 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB21 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB22 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB23 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB24 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB25 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB26 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB27 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB28 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB29 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB30 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB31 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB32 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB33 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB34 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB35 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB36 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB37 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |

(IF-542 BOARD(PCS-I500))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| FB38 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB39 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB40 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB41 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB42 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB43 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB44 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB45 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB46 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB47 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB48 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| IC1 | 8-759-822-95 | s | IC L79M05T-FA |
| IC2 | 8-759-538-46 | s | IC XR-T3590ID-TR |
| IC3 | 8-759-538-46 | s | IC XR-T3590ID-TR |
| IC4 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC7 | 8-759-252-59 | s | IC MAX202CSE |
| IC8 | 8-759-252-59 | s | IC MAX202CSE |
| IC9 | 8-759-252-59 | s | IC MAX202CSE |
| IC10 | 8-759-252-59 | s | IC MAX202CSE |
| IC11 | 8-759-926-67 | s | IC SN74HC374ANS-E05 |
| IC12 | 8-759-926-48 | s | IC SN74HC244NS |
| IC13 | 8-759-252-59 | s | IC MAX202CSE |
| IC14 | 8-759-252-59 | s | IC MAX202CSE |
| IC15 | 8-759-252-59 | s | IC MAX202CSE |
| IC16 | 8-759-252-59 | s | IC MAX202CSE |
| IC17 | 8-759-926-67 | s | IC SN74HC374ANS-E05 |
| IC18 | 8-759-926-48 | s | IC SN74HC244NS |
| IC19 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC20 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC21 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC22 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC23 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC24 | 8-759-926-48 | s | IC SN74HC244NS |
| IC25 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC26 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC27 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC28 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC29 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC30 | 8-759-925-74 | s | IC TC74HC04ANS |
| IC31 | 8-759-925-80 | s | IC SN74HC14ANS |
| IC32 | 8-759-925-80 | s | IC SN74HC14ANS |
| IC33 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC34 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC35 | 8-759-926-48 | s | IC SN74HC244NS |
| JC1 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC2 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC3 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC4 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC5 | 1-216-295-91 | s | METAL, CHIP 0 |
| JC6 | 1-216-295-91 | s | METAL, CHIP 0 |
| Q1 | 8-729-120-28 | s | TRANSISTOR 2SC1623-L5L6 |
| R1 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R2 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R3 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R10 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R11 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |

(IF-542 BOARD(PCS-I500))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R16 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R17 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R18 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R25 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R26 | 1-208-760-11 | s | METAL, CHIP 120 0.5% 1/10W |
| R51 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R52 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R53 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R54 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R55 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R56 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R57 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R58 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R59 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R60 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R61 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R62 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R63 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R64 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R65 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R66 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R67 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R68 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R69 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R70 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R71 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R72 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R73 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R74 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R75 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R76 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R77 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R78 | 1-216-025-91 | s | METAL, CHIP 100 5% 1/10W |
| R79 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R80 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R81 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R82 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R83 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R84 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R85 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| RB1 | 1-239-309-11 | s | RESISTOR BLOCK, CHIP 100kx8 |

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IF-543 BOARD(PCS-I520)

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| C101 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C102 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C103 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C104 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C105 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C106 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C107 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C108 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C109 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C110 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C111 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C112 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C113 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C114 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C115 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C116 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C117 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C118 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C119 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C120 | 1-163-021-91 | s | CERAMIC 0.01uF 10% 50V |
| C200 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C201 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| CN1 | 1-580-195-21 | s | CONNECTOR, PHEC 100P, FEMALE |
| CN2 | 1-774-777-21 | s | CONNECTOR, BB 40P, FEMALE |
| CN3 | 1-766-193-11 | o | CONNECTOR, D-SUB 25P, FEMALE |
| FB1 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB2 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB3 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB4 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB5 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB6 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB7 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB8 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB9 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB10 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB11 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB12 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB13 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB14 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB15 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB16 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB17 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB18 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB19 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB20 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| FB21 | 1-543-644-11 | s | BEAD, FERRITE (CHIP) |
| IC1 | 8-759-476-78 | s | IC MC3486NS |
| IC2 | 8-759-476-78 | s | IC MC3486NS |
| IC3 | 8-759-476-79 | s | IC MC3487NS |
| IC4 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC5 | 8-759-545-12 | s | IC TC74ACT244F(EL) |
| IC6 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC7 | 8-759-926-11 | s | IC SN74HC138ANS |
| IC8 | 8-759-926-48 | s | IC SN74HC244NS |
| IC9 | 8-759-925-90 | s | IC SN74HC74ANS |

(IF-543 BOARD(PCS-I520))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC10 | 8-759-926-12 | s | IC SN74HC139ANS |
| IC11 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC12 | 8-759-925-85 | s | IC SN74HC32ANS |
| IC13 | 8-759-925-74 | s | IC TC74HC04ANS |
| IC14 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC15 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC16 | 8-759-926-67 | s | IC SN74HC374ANS-E05 |
| IC17 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC18 | 8-759-926-18 | s | IC SN74HC157ANS |
| IC19 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC20 | 8-759-926-48 | s | IC SN74HC244NS |
| R1 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R2 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R3 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R4 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R5 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R6 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R7 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R8 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R9 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R10 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R11 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R12 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R13 | 1-216-101-00 | s | METAL, CHIP 150K 5% 1/10W |
| R14 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R15 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R16 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R17 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R18 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R19 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R20 | 1-216-073-00 | s | METAL, CHIP 10K 5% 1/10W |
| R21 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R22 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R23 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R24 | 1-216-089-91 | s | METAL, CHIP 47k 5% 1/10W |
| R25 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R26 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R27 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R28 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R29 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R30 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R31 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |
| R32 | 1-216-097-91 | s | METAL, CHIP 100K 5% 1/10W |

IF-583A BOARD(PCS-P500/P500P)

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8319-550-A | o | MOUNTED CIRCUIT BOARD, IF-583A |
| 2pcs | 8-759-460-61 | s | IC PALCE16V8H-15SC/4 |
| C001 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C002 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C005 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C006 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C007 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C008 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C009 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C010 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C011 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C012 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C013 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C014 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C015 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C016 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C017 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C018 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C019 | 1-126-394-11 | s | ELECT, CHIP 10uF 20% 16V |
| C022 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C200 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C201 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C202 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C203 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C204 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C206 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C207 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C208 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C209 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C210 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C211 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C212 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C213 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C214 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C215 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C216 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C217 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C218 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C219 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C225 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C226 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C227 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C228 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C229 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C250 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C251 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C252 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C253 | 1-135-177-21 | s | TANTALUM, CHIP 1uF 10% 25V |
| C254 | 1-113-500-11 | s | TANTALUM, CHIP 100uF 20% 10V |
| C255 | 1-113-500-11 | s | TANTALUM, CHIP 100uF 20% 10V |
| CN101 | 1-695-186-21 | o | CONNECTOR, DIN 60P, FEMALE |
| CNI204 | 1-540-151-21 | s | SOCKET, IC 32P |
| IC001 | 8-759-927-15 | s | IC SN74HCT245NS |
| IC002 | 8-759-926-69 | s | IC SN74HC377ANS |
| IC005 | 8-759-927-12 | s | IC SN74HCT244ANS-E05 |
| IC006 | 8-759-374-17 | s | IC UPD65646GJ-171-3EB |
| IC007 | 8-759-980-27 | s | IC SN74ALS163BNS-E05 |

(IF-583A BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| IC008 | 8-759-559-54 | o | IC PALCE16V8H-15SC/4/T-RAP11V1 |
| IC022 | 8-759-559-53 | o | IC PALCE16V8H-15SC/4/T-RAP10V1 |
| IC200 | 8-759-561-83 | s | IC XC56303PV80 |
| IC201 | 8-759-482-20 | s | IC IDT71V124S15Y-TL |
| IC202 | 8-759-482-20 | s | IC IDT71V124S15Y-TL |
| IC203 | 8-759-482-20 | s | IC IDT71V124S15Y-TL |
| IC204 | 8-759-562-72 | o | IC AT29LV512-15JI-IMXV3.0 |
| IC250 | 8-759-426-95 | s | IC L88MS33T-TL |
| IC251 | 8-759-426-95 | s | IC L88MS33T-TL |
| JC202 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC203 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| R001 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R002 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R003 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R004 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R005 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R006 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R007 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R008 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R009 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R010 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R011 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R012 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R013 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R014 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R015 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R016 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R017 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R020 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R022 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R200 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R201 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R202 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R203 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R204 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R205 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R206 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R207 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R208 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R209 | 1-216-837-11 | s | METAL, CHIP 22K 5% 1/16W |
| R212 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| RB001 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB002 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB200 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB201 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB202 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB203 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB204 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB205 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB206 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| RB207 | 1-239-286-11 | s | RESISTOR BLOCK, CHIP 22Kx4 |
| X001 | 1-760-557-11 | o | CRYSTAL 12.288MHz |

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VPR-019B BOARD(PCS-P500/P500P)

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| 1pc | A-8319-584-A | o | MOUNTED CIRCUIT BOARD, VPR-019B |
| 1pc | 3-179-084-01 | s | LEVER (R), PC BOARD |
| 1pc | 7-621-259-55 | s | SCREW +P 2.6X8 |
| 1pc | 7-682-947-01 | s | SCREW +PSW 3X6 |
| 1pc | 8-759-460-61 | s | IC PALCE16V8H-15SC/4 |
| C001 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C003 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C004 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C005 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C006 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C007 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C022 | 1-162-962-11 | s | CERAMIC, CHIP 470PF 10% 50V |
| C040 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C041 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C051 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C100 | 1-126-396-11 | s | ELECT, CHIP 47uF 20% 16V |
| C101 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C102 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C103 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C104 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C105 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C106 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C107 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C108 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C111 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C112 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C113 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C114 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C115 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C116 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C117 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C118 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C119 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C120 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C121 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C122 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C123 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C124 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C125 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C126 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C127 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C128 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C129 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C131 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C132 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C133 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C134 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C135 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C136 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C137 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C141 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C142 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C143 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C144 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C145 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C146 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C147 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C148 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C149 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(VPR-019B BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C151 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C152 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C153 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C154 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C155 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C156 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C157 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C158 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C159 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C160 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C161 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C163 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C164 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C165 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C166 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C167 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C171 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C173 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C174 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C175 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C201 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C202 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C203 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C204 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C221 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C222 | 1-162-919-11 | s | CERAMIC, CHIP 22PF 5% 50V |
| C223 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C224 | 1-162-921-11 | s | CERAMIC, CHIP 33PF 5% 50V |
| C251 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C252 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C253 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C254 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C255 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C256 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C257 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C301 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C303 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C304 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C305 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C306 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C307 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C308 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C309 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C310 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C311 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C312 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C350 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C351 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C352 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C353 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C354 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C355 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C356 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C357 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C358 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C359 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C360 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C361 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C362 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |

(VPR-019B BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| C363 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C364 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C365 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C366 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C367 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C368 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C369 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C401 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C403 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C404 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C405 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C406 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C407 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C408 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C409 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C450 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C451 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C452 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C453 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C454 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C455 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C456 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C457 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C458 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C459 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C460 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C461 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C462 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C463 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C464 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C465 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C466 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C467 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C468 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C469 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C501 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C552 | 1-164-156-11 | s | CERAMIC, CHIP 0.1uF 25V |
| C553 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| C554 | 1-126-398-11 | s | ELECT, CHIP 4.7uF 20% 35V |
| CN041 | 1-750-832-21 | o | CONNECTOR, BB 120P, FEMALE |
| CN042 | 1-750-832-21 | o | CONNECTOR, BB 120P, FEMALE |
| CN101 | 1-691-551-11 | o | CONNECTOR (SMD) 8P, MALE |
| CN201 | 1-565-276-21 | s | JACK, MINI STEREO |
| CN202 | 1-565-276-21 | s | JACK, MINI STEREO |
| CN501 | 1-770-230-11 | o | CONNECTOR, BB 50P, FEMALE |
| D201 | 8-719-104-34 | s | DIODE 1S2835 |
| D202 | 8-719-801-78 | s | DIODE 1S2837-T1 |
| D203 | 8-719-104-34 | s | DIODE 1S2835 |
| D501 | 8-719-104-34 | s | DIODE 1S2835 |
| D502 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D503 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D504 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D505 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D506 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D507 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D508 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D509 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |
| D510 | 8-719-056-17 | s | DIODE RD6.2MW-T1B |

(VPR-019B BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| E001 | 1-535-757-11 | s | CHIP, CHECKER |
| E002 | 1-535-757-11 | s | CHIP, CHECKER |
| E003 | 1-535-757-11 | s | CHIP, CHECKER |
| E004 | 1-535-757-11 | s | CHIP, CHECKER |
| E005 | 1-535-757-11 | s | CHIP, CHECKER |
| E006 | 1-535-757-11 | s | CHIP, CHECKER |
| FL201 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL202 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL203 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL204 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL501 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL502 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL503 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL504 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL505 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL506 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL507 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL508 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL509 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL510 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL511 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL512 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL513 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL514 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL515 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL516 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL517 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL518 | 1-239-825-31 | s | FILTER, CHIP EMI |
| FL519 | 1-239-825-31 | s | FILTER, CHIP EMI |
| IC1 | 8-759-553-99 | s | IC ISPLSI2032-80LT44-RAP08V1 |
| IC003 | 8-759-186-02 | s | IC TC74VHCT245F(EL) |
| IC004 | 8-759-186-02 | s | IC TC74VHCT245F(EL) |
| IC005 | 8-759-451-89 | s | IC IDT74FCT157ATQ-TL |
| IC006 | 8-759-272-21 | s | IC TC74VHCT541F(EL) |
| IC007 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC008 | 8-759-524-25 | o | IC TC7WH241FU(TE12R) |
| IC009 | 8-759-525-11 | s | IC TC7SET32F(TE85L) |
| IC101 | 8-759-186-44 | s | IC TC74VHC125F(EL) |
| IC102 | 8-759-186-44 | s | IC TC74VHC125F(EL) |
| IC103 | 8-759-186-44 | s | IC TC74VHC125F(EL) |
| IC104 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC105 | 8-759-186-57 | s | IC TC74VHC175F(EL) |
| IC106 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC107 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC108 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC111 | 8-759-395-39 | s | IC LF2242QC-33 |
| IC112 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC113 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC114 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC115 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC116 | 8-759-557-01 | s | IC ISPLSI1032E-70LT-RAP01V1 |
| IC117 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC118 | 8-759-540-67 | s | IC UPD65804GC-095-7EA |
| IC119 | 8-759-167-20 | s | IC UPD42280GU-30-E2 |
| IC120 | 8-759-167-20 | s | IC UPD42280GU-30-E2 |
| IC121 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC122 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC123 | 8-759-175-29 | s | IC TC74VHC374F(EL) |
| IC124 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC125 | 8-759-081-44 | s | IC TC74VHC04F(EL) |
| IC131 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC132 | 8-759-186-57 | s | IC TC74VHC175F(EL) |
| IC133 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC134 | 8-759-174-16 | s | IC TC74VHC244F(EL) |
| IC135 | 8-759-925-90 | s | IC SN74HC74ANS |
| IC136 | 8-759-186-57 | s | IC TC74VHC175F(EL) |
| IC137 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC146 | 8-759-081-44 | s | IC TC74VHC04F(EL) |
| IC147 | 8-759-557-00 | s | IC ISPLSI2032-80LT44-RAP09V1 |
| IC151 | 8-759-186-44 | s | IC TC74VHC125F(EL) |
| IC152 | 8-759-186-51 | s | IC TC74VHC157F(EL) |
| IC153 | 8-759-565-46 | s | IC ISPLSI1032E-70LT-RAP02V2 |
| IC154 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC155 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC156 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC157 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC158 | 8-759-179-94 | s | IC HM530281RTT-20 |
| IC159 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC160 | 8-759-540-68 | s | IC UPD65646GB-Y16-9EU |
| IC161 | 8-759-557-04 | s | IC PALCE16V8H-15SC/4/T-RAP09V1 |
| IC171 | 8-759-099-38 | s | IC SN74HCT374ANS-E05 |
| IC173 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC174 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC175 | 8-759-540-69 | s | IC UPD65621GB-Y12-9EU |
| IC201 | 8-759-374-17 | s | IC UPD65646GJ-171-3EB |
| IC202 | 8-759-374-19 | s | IC UPD17216GT-560 |
| IC203 | 8-759-269-09 | s | IC SN74HCT04ANS-E05 |
| IC204 | 8-759-185-61 | s | IC TC74VHCT00F(EL) |
| IC301 | 8-759-543-07 | s | IC 8X83105AKAB |
| IC303 | 8-759-540-94 | s | IC IDT71024S12Y-TL |
| IC304 | 8-759-540-94 | s | IC IDT71024S12Y-TL |
| IC305 | 8-759-540-94 | s | IC IDT71024S12Y-TL |
| IC306 | 8-759-540-94 | s | IC IDT71024S12Y-TL |
| IC307 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC308 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC309 | 8-759-541-40 | s | IC IDT71256SA12Y-TL |
| IC310 | 8-759-541-40 | s | IC IDT71256SA12Y-TL |
| IC311 | 8-759-541-40 | s | IC IDT71256SA12Y-TL |
| IC312 | 8-759-541-40 | s | IC IDT71256SA12Y-TL |
| IC401 | 8-759-468-11 | s | IC 8X83404AKAB |
| IC403 | 8-759-436-45 | s | IC IDT71024S15Y-TL |
| IC404 | 8-759-436-45 | s | IC IDT71024S15Y-TL |
| IC405 | 8-759-436-45 | s | IC IDT71024S15Y-TL |
| IC406 | 8-759-436-45 | s | IC IDT71024S15Y-TL |
| IC407 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC408 | 8-759-538-54 | s | IC KM416C1200CT-6T |
| IC409 | 8-759-447-77 | s | IC TC7WH74FU(TE12R) |
| IC501 | 8-759-368-65 | s | IC SYM53CF96-2 |
| JC001 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC002 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC111 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC112 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC114 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC116 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC119 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC120 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC122 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |

(VPR-019B BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| JC123 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC124 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC125 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC127 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC129 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC154 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC174 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC175 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC176 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC177 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC178 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC179 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC180 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| JC181 | 1-216-864-11 | s | METAL, CHIP 0 5% 1/16W |
| PS201 ⚠ | 1-218-233-11 | s | METAL, CHIP 47 5% 1/2W |
| PS501 ⚠ | 1-576-212-21 | s | FUSE, CHIP 1.25A 125V |
| R001 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R009 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R010 | 1-216-821-11 | s | METAL, CHIP 1K 5% 1/16W |
| R014 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R017 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R018 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R101 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R102 | 1-216-797-11 | s | METAL, CHIP 10 5% 1/16W |
| R103 | 1-216-793-11 | s | METAL, CHIP 4.7 5% 1/16W |
| R104 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R105 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R111 | 1-216-793-11 | s | METAL, CHIP 4.7 5% 1/16W |
| R112 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R114 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R116 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R117 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R131 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R132 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R133 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R134 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R135 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R136 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R137 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R138 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R139 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R140 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R141 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R142 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R143 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R144 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R145 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R146 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R147 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R148 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R150 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R152 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R161 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R162 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R171 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R172 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R173 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R174 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |

(VPR-019B BOARD(PCS-P500/P500P))

| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R201 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R202 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R203 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R204 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R205 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R206 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R207 | 1-216-833-11 | s | METAL, CHIP 10K 5% 1/16W |
| R208 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R209 | 1-216-813-11 | s | METAL, CHIP 220 5% 1/16W |
| R211 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R212 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R213 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R214 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R215 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R216 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R217 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R218 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R303 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R304 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R306 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R307 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R309 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R310 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R311 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R312 | 1-216-841-11 | s | METAL, CHIP 47K 5% 1/16W |
| R313 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R314 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R403 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R404 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R406 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R407 | 1-216-801-11 | s | METAL, CHIP 22 5% 1/16W |
| R409 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R410 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R411 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R412 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R413 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R414 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R415 | 1-216-805-11 | s | METAL, CHIP 47 5% 1/16W |
| R501 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R502 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R503 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R504 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R505 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R506 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R507 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R508 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R509 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R510 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R511 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R512 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R513 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R514 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R515 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R516 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R517 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R518 | 1-216-033-00 | s | METAL, CHIP 220 5% 1/10W |
| R519 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R520 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R521 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |

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| Ref. No. or Q'ty | Part No. | SP | Description |
|---|---|---|---|
| R522 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R523 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R524 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R525 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R526 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R527 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R528 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R529 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R530 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R531 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R532 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R533 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R534 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R535 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R536 | 1-216-037-00 | s | METAL, CHIP 330 5% 1/10W |
| R551 | 1-216-829-11 | s | METAL, CHIP 4.7K 5% 1/16W |
| R552 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R553 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| R554 | 1-216-845-11 | s | METAL, CHIP 100K 5% 1/16W |
| RB001 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB002 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB003 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB004 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB005 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB006 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB007 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB008 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB009 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB101 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB102 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB103 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB104 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB105 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB106 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB107 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB108 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB109 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB110 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB111 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB112 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB113 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB121 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB122 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB141 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB142 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB143 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB144 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB151 | 1-236-907-11 | s | RESISTOR BLOCK, CHIP 100Kx4 |
| RB152 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB153 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB154 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB155 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB156 | 1-239-412-11 | s | RESISTOR BLOCK, CHIP 100x4 |
| RB171 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB172 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB173 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB174 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB175 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB176 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB177 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB178 | 1-239-409-11 | s | RESISTOR BLOCK, CHIP 47x4 |
| RB201 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB202 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB301 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB302 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB303 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB304 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB401 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB402 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB403 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB404 | 1-239-621-11 | s | RESISTOR BLOCK, CHIP 22x4 |
| RB501 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| RB502 | 1-236-908-11 | s | RESISTOR BLOCK, CHIP 10Kx4 |
| X201 | 1-760-557-11 | o | CRYSTAL 12.288MHz |
| X202 | 1-579-477-21 | s | CRYSTAL 4.000MHz |
| X301 | 1-781-075-11 | s | CRYSTAL 36.000MHz |
| X401 | 1-760-967-21 | s | CRYSTAL 33.000MHz |

# SECTION 6
# SCHEMATIC DIAGRAMS AND BOARD LAYOUTS

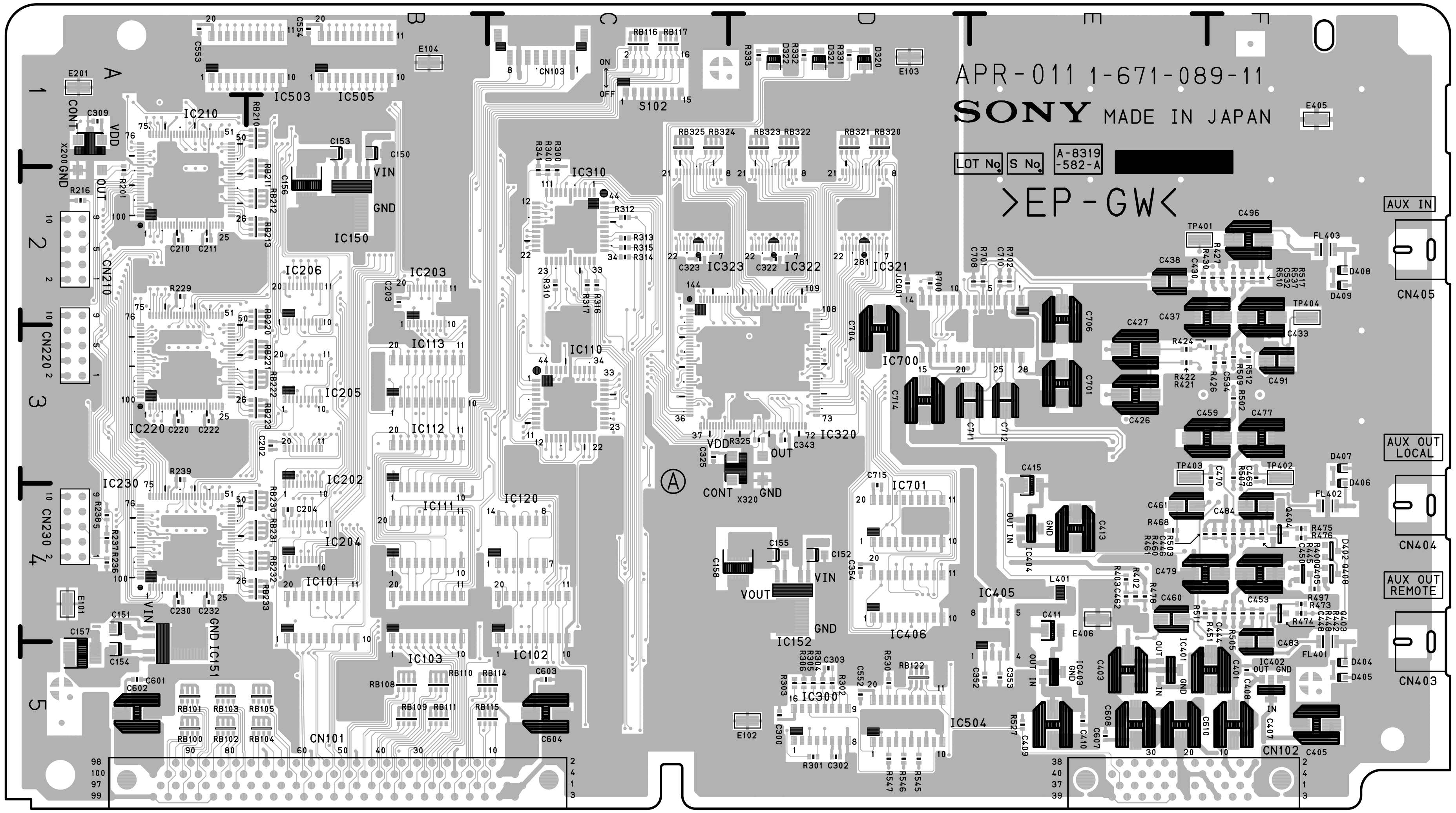
| | **Board Name** | **Circuit Function** | **Page** |
|---|---|---|---|
| A | APR-011/011A | Audio Codec (G.711, G.722, G.728) Echo Cancel | 6-2 |
| C | CN-1218 | Connection | 6-128 |
| | CPU-202 | System Main Control (Memory, I/O, IC Card) | 6-14 |
| D | DAD-017/017P | Video In/Out, A/D・D/A, Decode/Encode, Menu Generator | 6-36 |
| | DAD-018/018P | Dual Monitor, U.V Decode, RGB→Y.U.V Convert | 6-56 |
| | DAD-33/33P | Dual Monitor | 6-142 |
| I | IF-540/540P | ISDN Interface | 6-72 |
| | IF-541 | X.21 Interface | 6-90 |
| | IF-542 | V.35 Interface | 6-98 |
| | IF-543 | RS-449 Interface | 6-108 |
| | IF-583 | Bonding Interface | 6-136 |
| L | LED-246 | Standby, Power Indicators | 6-128 |
| V | VPR-019/019B | Video Codec (H.221, H.261, JPEG, MMR), Sircs Receive・Decode | 6-116 |

In the schematic diagrams, the following marks are described near reference number.
These are parts data at factory.

| CAPACITOR (C) | | RESISTOR (R)<br>VARIABLE RESISTOR (RV) | |
|---|---|---|---|
| AL | ELECTROLYTIC | RC | CARBON |
| AS | | RD | |
| TA | TANTALUM | RF | FUSE |
| CA | CERAMIC | RN | METAL |
| CC | | RS | |
| CCS | | RW | WIREWOUND |
| CM | | | |
| CS | | | |
| MPS | MYLAR | | |
| PP | | | |
| PS | | | |
| PT | | | |
| MD | DIPPED MICA | | |
| MS | MICA | | |

The mentioned items in each waveform photograph of this section are the measurement point (location) and measurement condition (the location indicates a point on the board).

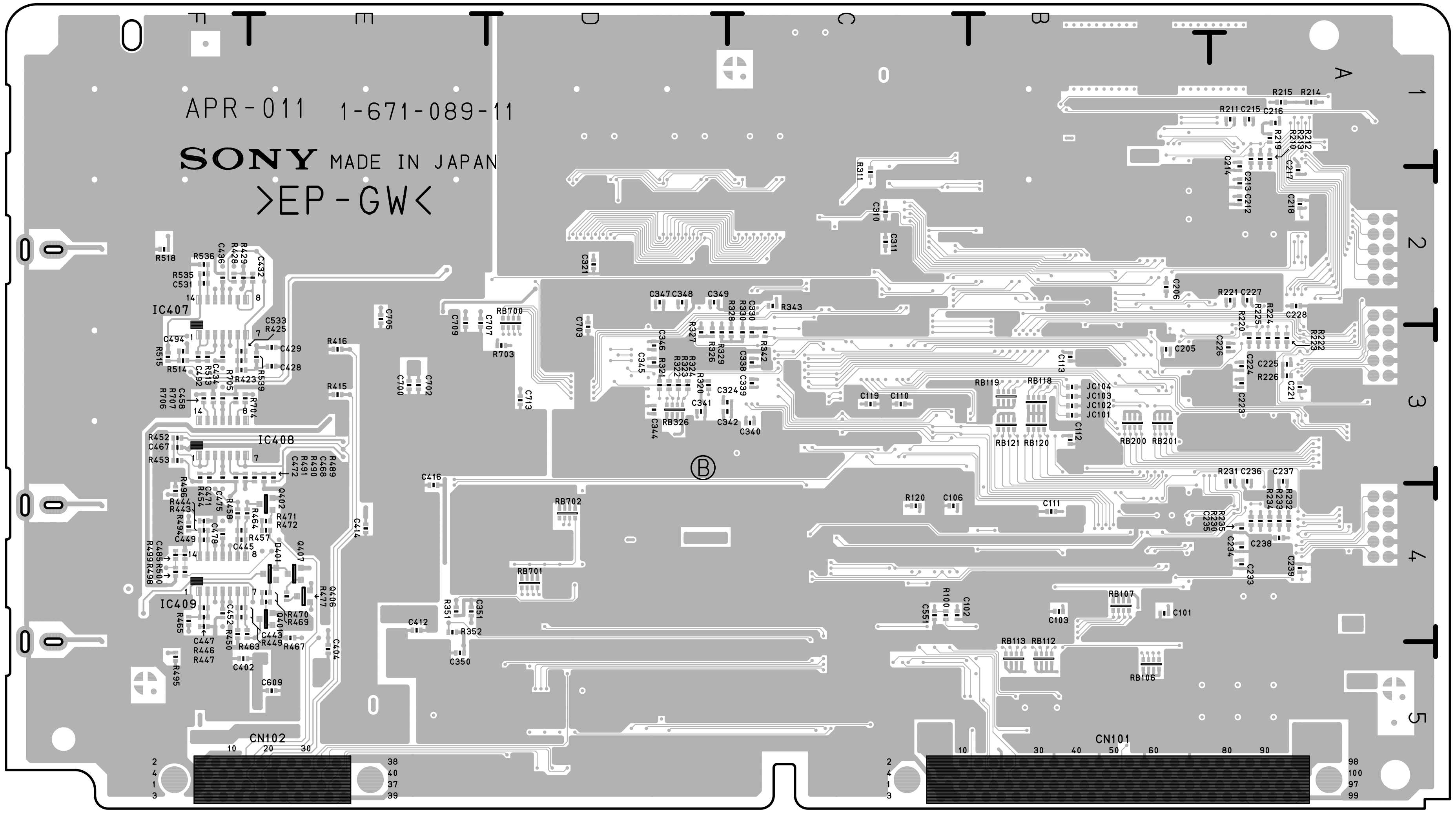
PCS-P500 (J) : SN 63001 and higher
PCS-P500 (UC) : SN 23001 and higher
PCS-P500P (CE) : SN 53001 and higher


APR-011 1-671-089-11
SONY MADE IN JAPAN
LOT No
S No
A-8319 -582-A
>EP-GW<
AUX IN
CN405
AUX OUT LOCAL
CN404
AUX OUT REMOTE
CN403
CN101
CN102
CN103
CN210
CN220
CN230
S102
IC101
IC102
IC103
IC110
IC111
IC112
IC113
IC120
IC150
IC151
IC152
IC202
IC203
IC204
IC205
IC206
IC210
IC220
IC230
IC300
IC310
IC320
IC321
IC322
IC323
IC405
IC406
IC503
IC504
IC505
IC700
IC701
VIN
VOUT
GND
VDD
OUT
CONT
A
B
C
D
E
F
1
2
3
4
5

**APR-011A** -A SIDE-

SUFFIX: -11

6-2 (b)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

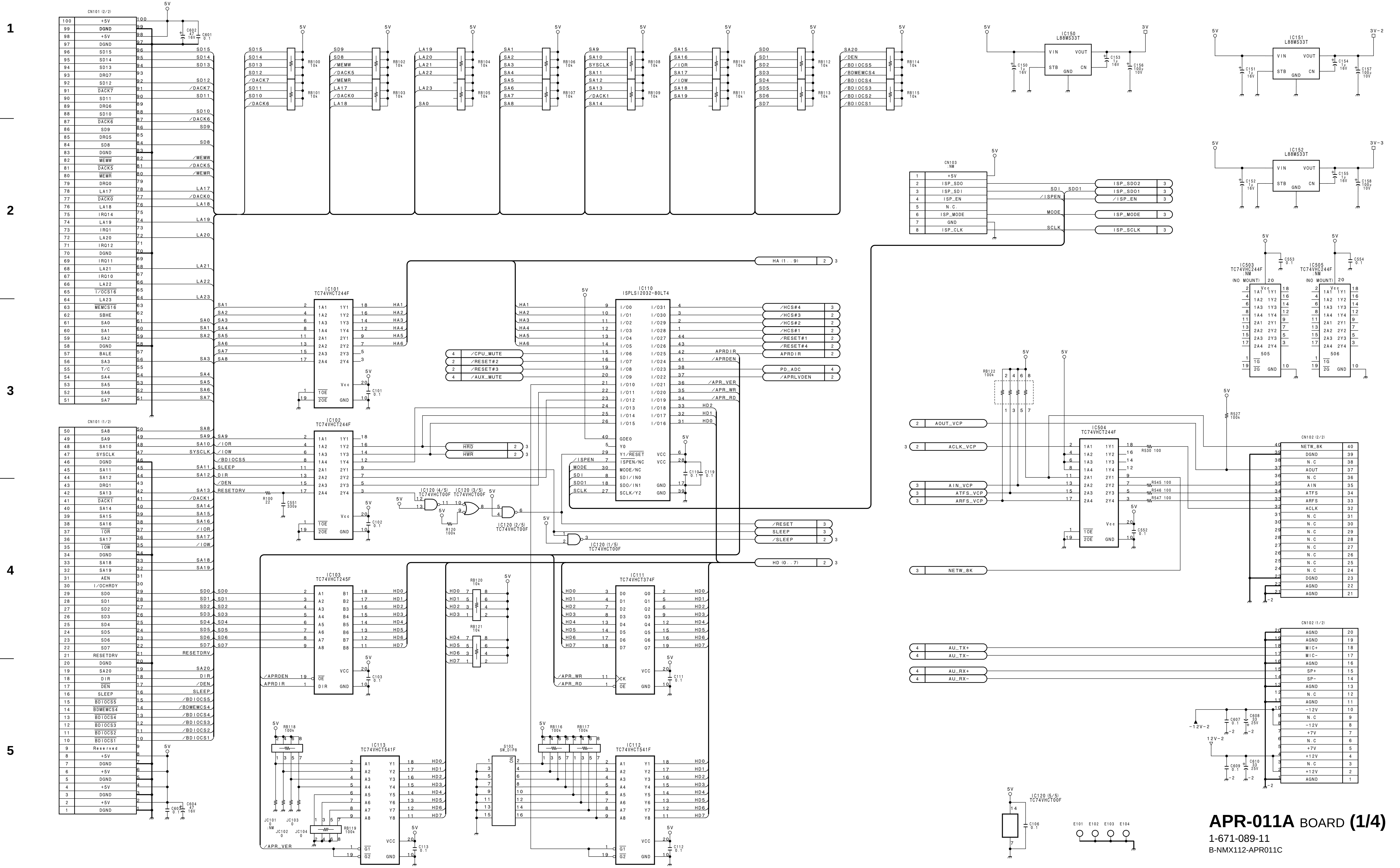

APR-011 1-671-089-11
SONY MADE IN JAPAN
>EP-GW<
A
B
C
D
E
F
1
2
3
4
5
IC407
IC408
IC409
CN101
CN102
RB700
RB701
RB702
RB326
RB119
RB118
RB121
RB120
RB200
RB201
RB107
RB113
RB112
RB106
JC104
JC103
JC102
JC101
Ⓑ

## APR-011A -B SIDE-

SUFFIX: -11

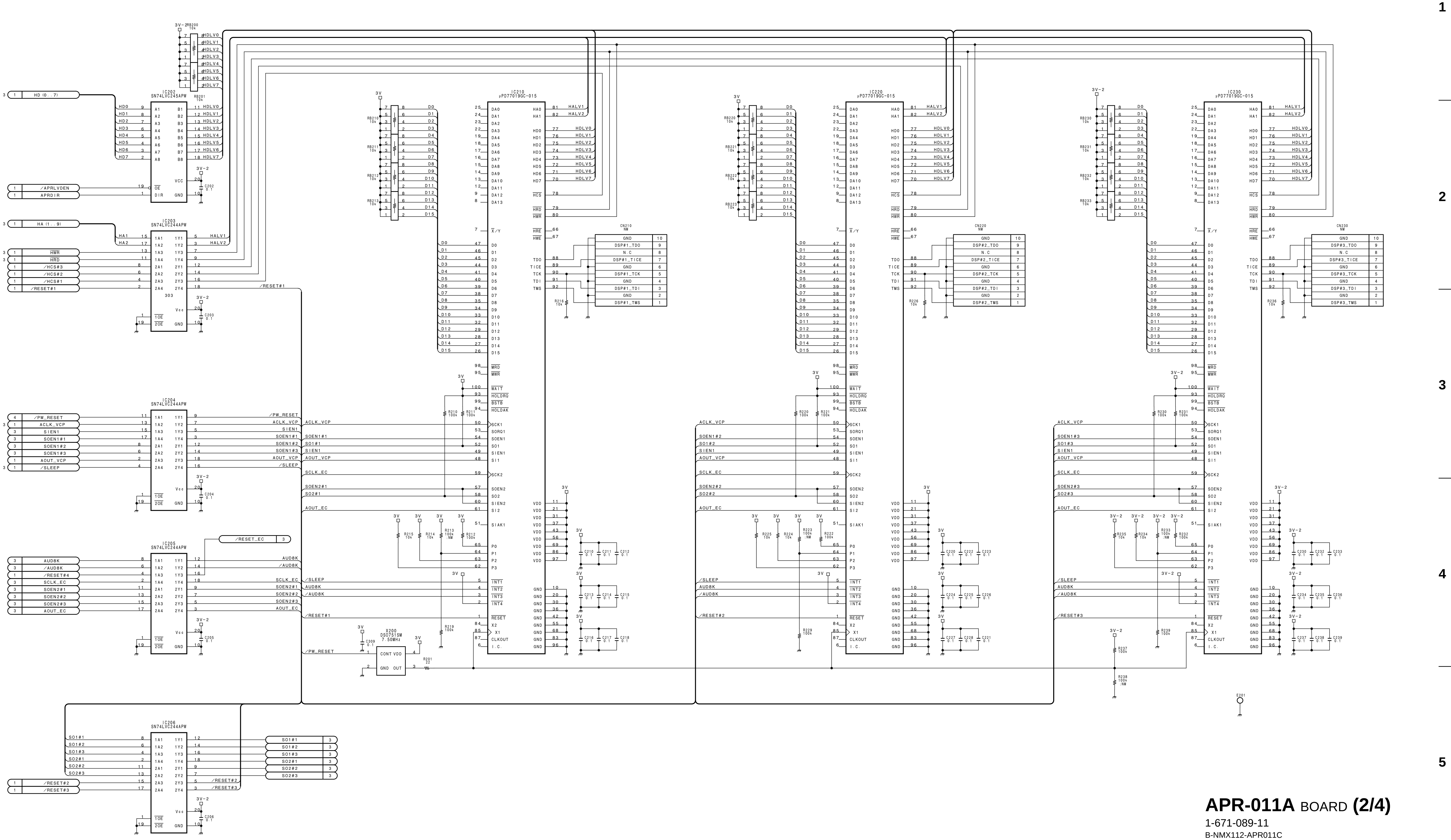
| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## APR-011A (1/4); AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL


1
2
3
4
5
CN101 (2/2)
CN101 (1/2)
IC101 TC74VHCT244F
IC102 TC74VHCT244F
IC103 TC74VHCT245F
IC110 ISPLSI2032-80LT4
IC111 TC74VHCT374F
IC112 TC74VHCT541F
IC113 TC74VHCT541F
IC120 TC74VHCT00F
IC150 L88MS33T
IC151 L88MS33T
IC152 L88MS33T
IC503 TC74VHC244F
IC505 TC74VHC244F
IC504 TC74VHCT244F
CN103 :NM
CN102 (2/2)
CN102 (1/2)
S102 SW_DIP8
HA (1..9)
HD (0..7)
/RESET
SLEEP
/SLEEP
/CPU_MUTE
/RESET#2
/RESET#3
/AUX_MUTE
/HCS#4
/HCS#3
/HCS#2
/HCS#1
/RESET#1
/RESET#4
APRDIR
PD_ADC
/APRLVDEN
ISP_SDO2
ISP_SDO1
/ISP_EN
ISP_MODE
ISP_SCLK
AOUT_VCP
ACLK_VCP
AIN_VCP
ATFS_VCP
ARFS_VCP
NETW_8K
AU_TX+
AU_TX-
AU_RX+
AU_RX-
E101 E102 E103 E104
APR-011A BOARD (1/4)
1-671-089-11
B-NMX112-APR011C
A B C D E F G H

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## APR-011A (2/4); AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL

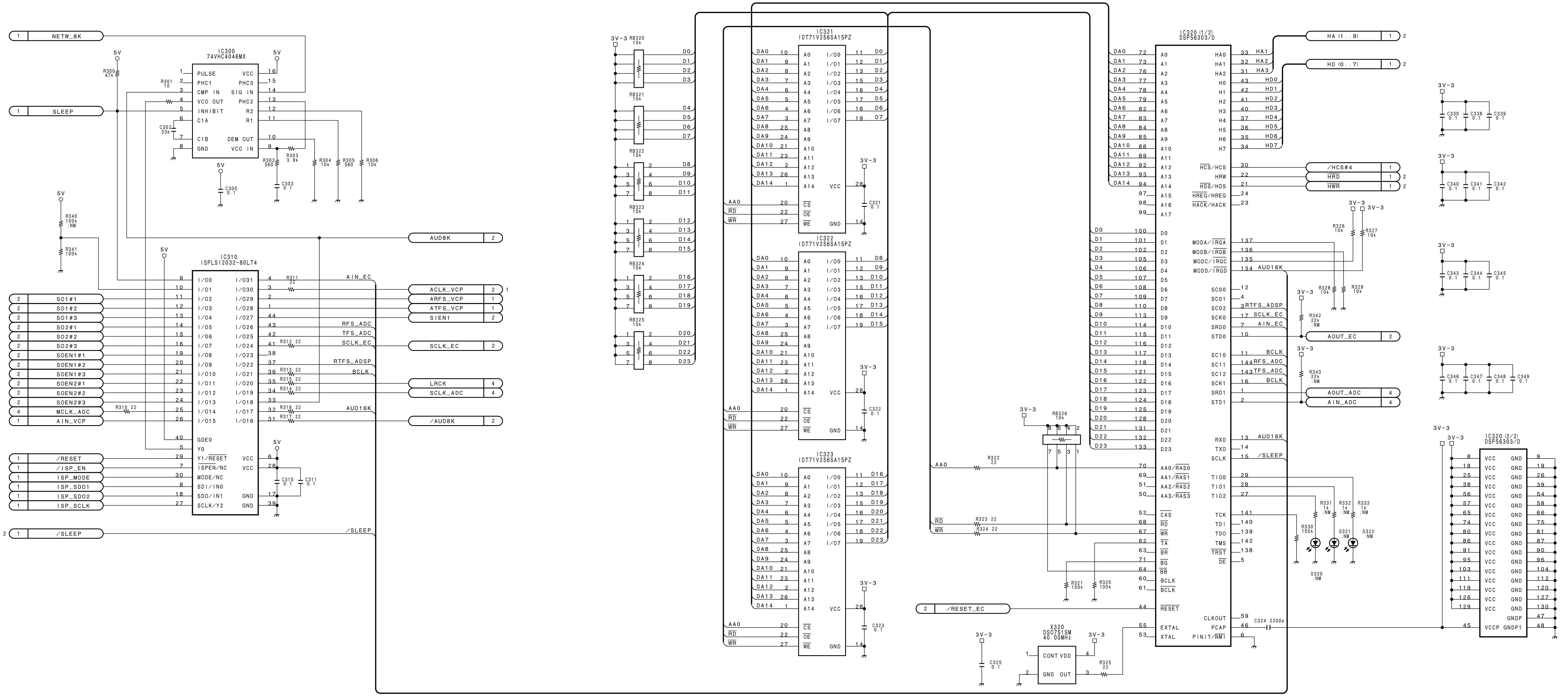

1
2
3
4
5
IC202 SN74LVC245APW
IC203 SN74LVC244APW
IC204 SN74LVC244APW
IC205 SN74LVC244APW
IC206 SN74LVC244APW
IC210 μPD77019GC-015
IC220 μPD77019GC-015
IC230 μPD77019GC-015
CN210 NM
CN220 NM
CN230 NM
X200 DSO751SM 7.50MHz
RB200 10k
RB201 10k
RB210 10k
RB211 10k
RB212 10k
RB213 10k
RB220 10k
RB221 10k
RB222 10k
RB223 10k
RB230 10k
RB231 10k
RB232 10k
RB233 10k
HD (0..7)
HA (1..9)
/APRLVDEN
APRDIR
HWR
HRD
/HCS#3
/HCS#2
/HCS#1
/RESET#1
/PW_RESET
ACLK_VCP
SIEN1
SOEN1#1
SOEN1#2
SOEN1#3
AOUT_VCP
/SLEEP
AUD8K
/AUD8K
/RESET#4
SCLK_EC
SOEN2#1
SOEN2#2
SOEN2#3
AOUT_EC
/RESET_EC
SO1#1
SO1#2
SO1#3
SO2#1
SO2#2
SO2#3
/RESET#2
/RESET#3
HDLV0
HDLV1
HDLV2
HDLV3
HDLV4
HDLV5
HDLV6
HDLV7
HALV1
HALV2
DSP#1_TDO
DSP#1_TICE
DSP#1_TCK
DSP#1_TDI
DSP#1_TMS
DSP#2_TDO
DSP#2_TICE
DSP#2_TCK
DSP#2_TDI
DSP#2_TMS
DSP#3_TDO
DSP#3_TICE
DSP#3_TCK
DSP#3_TDI
DSP#3_TMS
GND
N.C
3V
3V-2
E201
A
B
C
D
E
F
G
H

**APR-011A** BOARD **(2/4)**
1-671-089-11
B-NMX112-APR011C

## APR-011A (3/4); AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

1
2
3
4
5

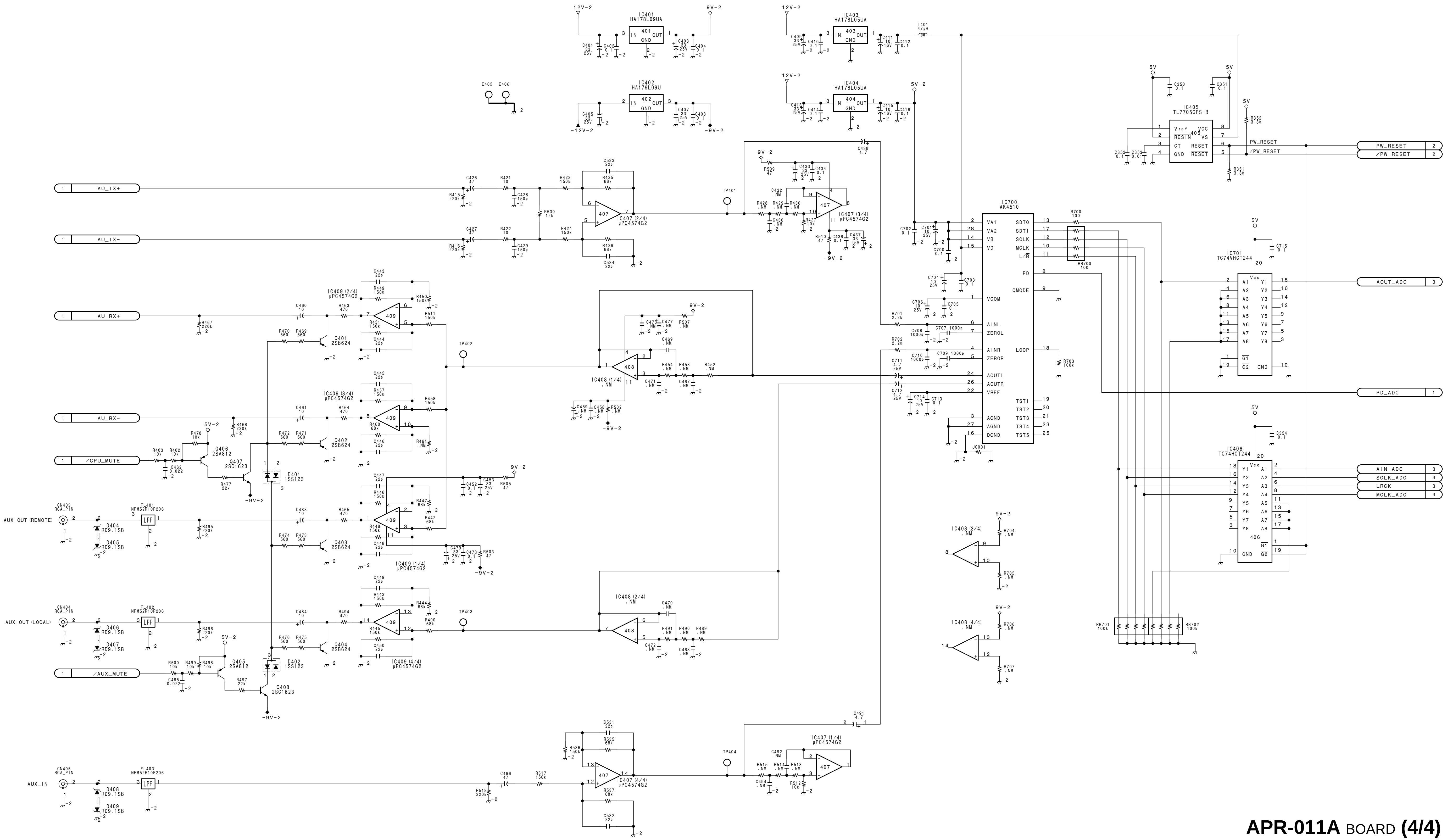

NETW_8K
SLEEP
IC300 74VHC4046MX
IC310 ISPLSI2032-80LT4
SO1#1
SO1#2
SO1#3
SO2#1
SO2#2
SO2#3
SOEN1#1
SOEN1#2
SOEN1#3
SOEN2#1
SOEN2#2
SOEN2#3
MCLK_ADC
AIN_VCP
AUD8K
AIN_EC
ACLK_VCP
ARFS_VCP
ATFS_VCP
SIEN1
RFS_ADC
TFS_ADC
SCLK_EC
RTFS_ADSP
BCLK
LRCK
SCLK_ADC
AUD16K
/AUD8K
/RESET
/ISP_EN
ISP_MODE
ISP_SDO1
ISP_SDO2
ISP_SCLK
/SLEEP
IC321 IDT71V256SA15PZ
IC322 IDT71V256SA15PZ
IC323 IDT71V256SA15PZ
IC320 (1/2) DSP56303/D
HA(1..9)
HD(0..7)
/HCS#4
HRD
HWR
AOUT_EC
AOUT_ADC
AIN_ADC
/RESET_EC
X320 DSO751SM 40.00MHz
IC320 (2/2) DSP56303/D
3V-3
5V

**APR-011A** BOARD **(3/4)**
1-671-089-11
B-NMX112-APR011C

A B C D E F G H

## APR-011A (4/4); AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |


IC401 HA178L09UA
IC402 HA179L09U
IC403 HA178L05UA
IC404 HA178L05UA
IC405 TL7705CPS-B
IC700 AK4510
IC701 TC74VHCT244
IC406 TC74HCT244
IC407 (1/4) μPC4574G2
IC407 (2/4) μPC4574G2
IC407 (3/4) μPC4574G2
IC407 (4/4) μPC4574G2
IC408 (1/4) .NM
IC408 (2/4) .NM
IC408 (3/4) .NM
IC408 (4/4) .NM
IC409 (1/4) μPC4574G2
IC409 (2/4) μPC4574G2
IC409 (3/4) μPC4574G2
IC409 (4/4) μPC4574G2
12V-2
9V-2
-9V-2
-12V-2
5V
5V-2
E405
E406
AU_TX+
AU_TX-
AU_RX+
AU_RX-
/CPU_MUTE
/AUX_MUTE
AUX_OUT (REMOTE)
AUX_OUT (LOCAL)
AUX_IN
CN403 RCA_PIN
CN404 RCA_PIN
CN405 RCA_PIN
FL401 NFM52R10P206
FL402 NFM52R10P206
FL403 NFM52R10P206
LPF
D404 RD9.1SB
D405 RD9.1SB
D406 RD9.1SB
D407 RD9.1SB
D408 RD9.1SB
D409 RD9.1SB
D401 1SS123
D402 1SS123
Q401 2SB624
Q402 2SB624
Q403 2SB624
Q404 2SB624
Q405 2SA812
Q406 2SA812
Q407 2SC1623
Q408 2SC1623
TP401
TP402
TP403
TP404
L401 47μH
PW_RESET
/PW_RESET
AOUT_ADC
PD_ADC
AIN_ADC
SCLK_ADC
LRCK
MCLK_ADC
RB700 100
RB701 100k
RB702 100k
JC001
VA1
VA2
VB
VD
SDTO
SDTI
SCLK
MCLK
L/R
PD
CMODE
VCOM
AINL
ZEROL
AINR
ZEROR
LOOP
AOUTL
AOUTR
VREF
TST1
TST2
TST3
TST4
TST5
AGND
DGND
Vref
RESIN
CT
GND
VCC
VS
RESET
A1
A2
A3
A4
A5
A6
A7
A8
Y1
Y2
Y3
Y4
Y5
Y6
Y7
Y8
G1
G2

## APR-011A BOARD (4/4)

1-671-089-11

B-NMX112-APR011C

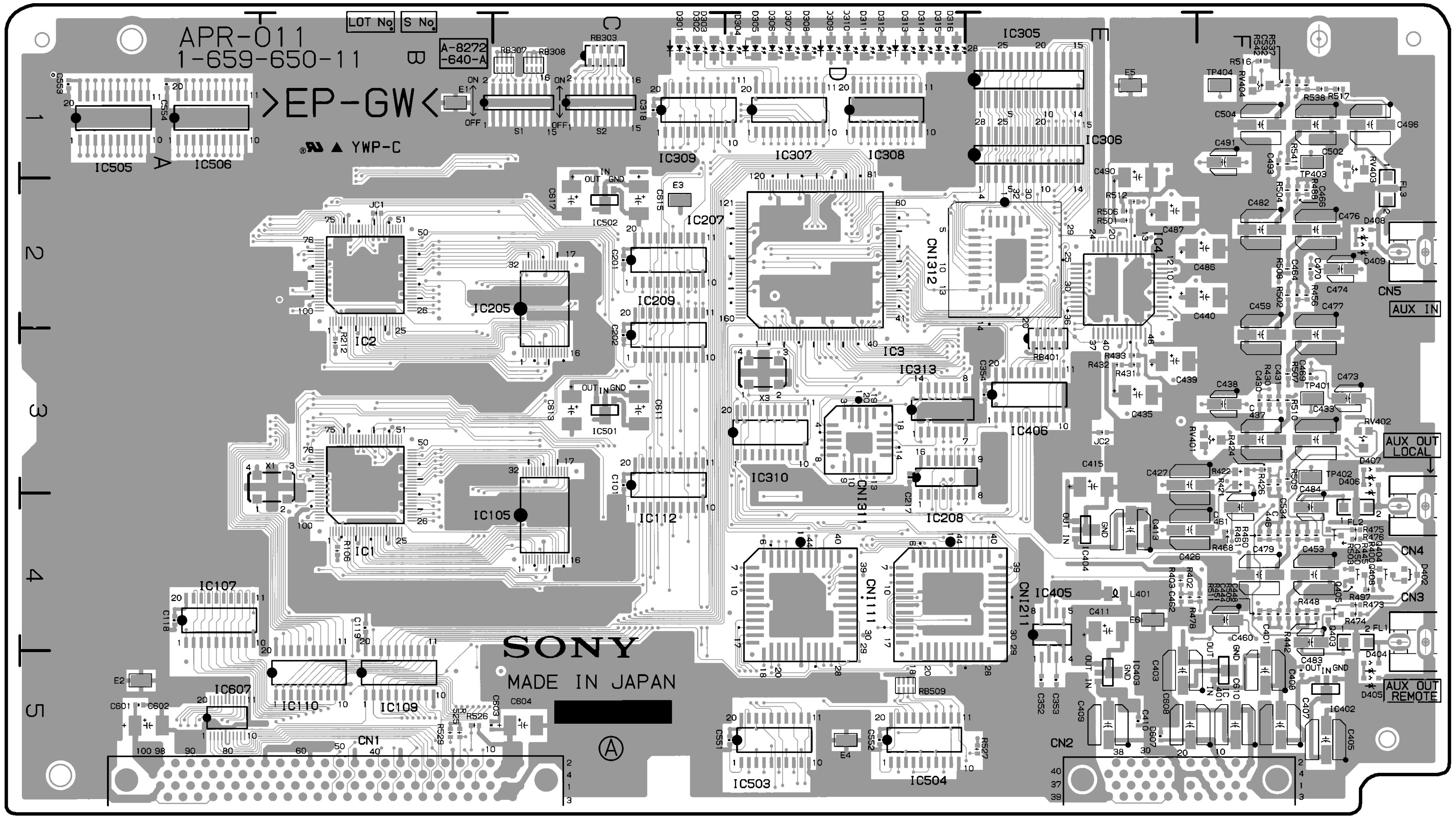
1 2 3 4 5

## APR-011 ; AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL

APR-011 (1-659-650-11)

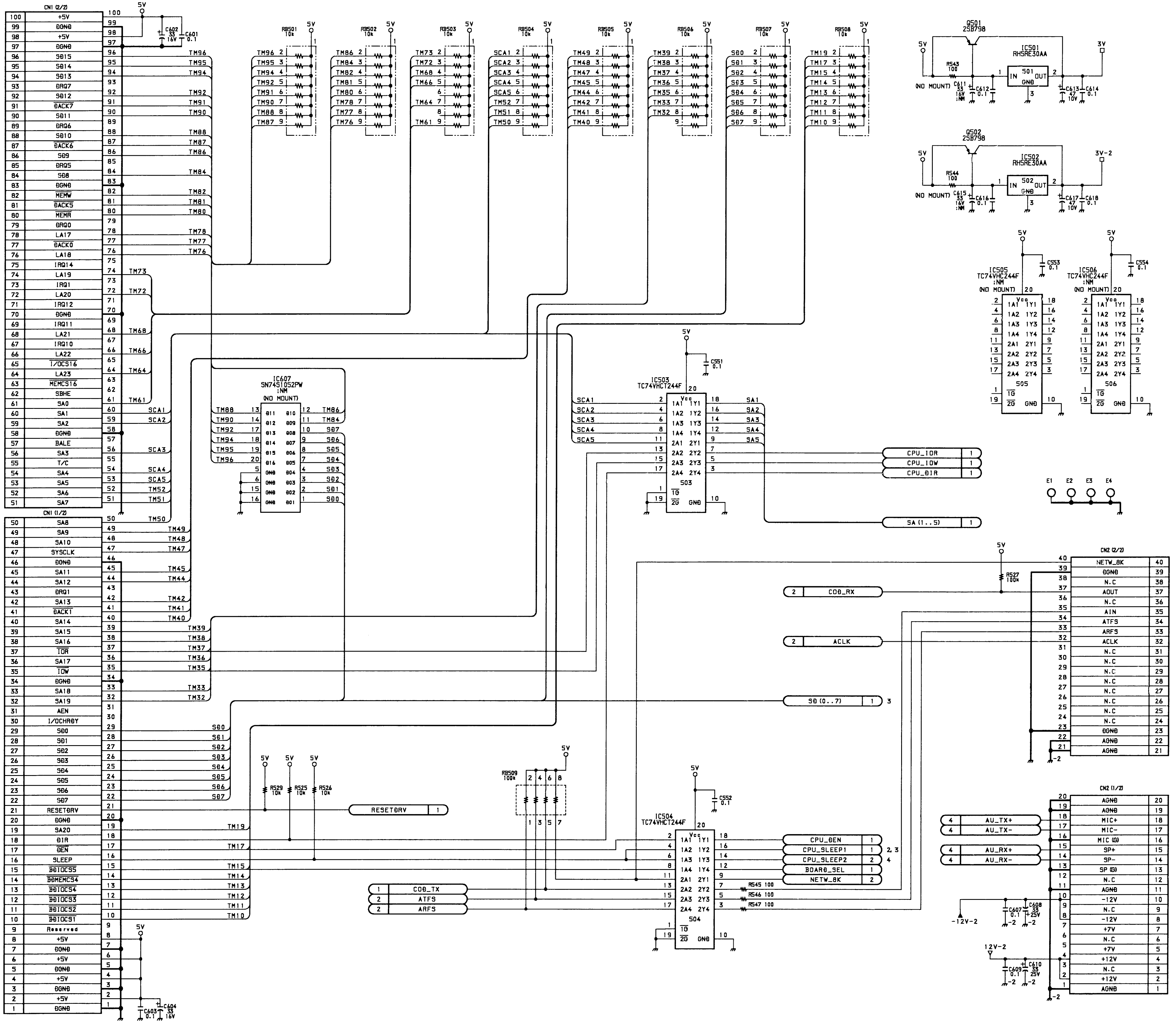
*:B SDIE

| | |
|---|---|
| CNI312 | E-2 |
| CN1 | C-5 |
| CN2 | F-5 |
| CN3 | F-4 |
| CN4 | F-4 |
| CN5 | F-2 |
| D301 | C-1 |
| D302 | C-1 |
| D303 | C-1 |
| D304 | D-1 |
| D305 | D-1 |
| D306 | D-1 |
| D307 | D-1 |
| D308 | D-1 |
| D309 | D-1 |
| D310 | D-1 |
| D311 | D-1 |
| D312 | D-1 |
| D313 | D-1 |
| D314 | D-1 |
| D315 | D-1 |
| D316 | D-1 |
| D401 | *F-4 |
| D402 | F-4 |
| D404 | F-5 |
| D405 | F-5 |
| D406 | F-3 |
| D407 | F-3 |
| D408 | F-2 |
| D409 | F-2 |
| E1 | B-1 |
| E2 | A-5 |
| E3 | C-2 |
| E4 | D-5 |
| E5 | E-1 |
| E6 | E-4 |
| FL1 | F-4 |
| FL2 | F-4 |
| FL3 | F-2 |
| IC3 | D-2 |
| IC4 | E-2 |
| IC105 | C-4 |
| IC107 | A-4 |
| IC109 | B-5 |
| IC110 | B-5 |
| IC112 | C-3 |
| IC205 | C-2 |
| IC207 | C-2 |
| IC208 | D-3 |
| IC209 | C-3 |
| IC305 | E-1 |
| IC306 | E-1 |
| IC307 | D-1 |
| IC308 | D-1 |
| IC309 | C-1 |
| IC310 | D-3 |
| IC313 | D-3 |
| IC401 | F-5 |
| IC402 | F-5 |
| IC403 | E-5 |
| IC404 | E-4 |
| IC405 | E-4 |
| IC406 | E-3 |
| IC407 | *F-3 |
| IC408 | *F-3 |
| IC409 | *F-2 |
| IC410 | *F-1 |
| IC411 | *F-4 |
| IC501 | C-3 |
| IC502 | C-2 |
| IC503 | D-5 |
| IC504 | D-5 |
| L401 | E-4 |
| Q401 | *F-4 |
| Q402 | *F-4 |
| Q403 | F-4 |
| Q404 | F-4 |
| Q405 | F-4 |
| Q406 | *F-4 |
| Q407 | *F-4 |
| Q408 | F-4 |
| Q501 | *C-3 |
| Q502 | *C-2 |
| RB101 | *B-3 |
| RB102 | *B-4 |
| RB103 | *B-3 |
| RB104 | *B-4 |
| RB201 | *B-2 |
| RB202 | *B-2 |
| RB203 | *B-2 |
| RB301 | *D-2 |
| RB302 | *D-3 |
| RB303 | C-1 |
| RB304 | *D-1 |
| RB305 | *D-1 |
| RB306 | *D-1 |
| RB307 | C-1 |
| RB308 | C-1 |
| RB309 | *D-2 |
| RB401 | E-3 |
| RB402 | *E-2 |
| RB501 | *A-5 |
| RB502 | *A-5 |
| RB503 | *B-5 |
| RB504 | *B-5 |
| RB505 | *B-5 |
| RB506 | *B-5 |
| RB507 | *B-5 |
| RB508 | *C-5 |
| RB509 | D-5 |
| RV401 | F-3 |
| RV402 | F-3 |
| RV403 | F-1 |
| RV404 | F-1 |
| S1 | C-1 |
| S2 | C-1 |
| TP401 | F-3 |
| TP402 | F-3 |
| TP403 | F-1 |
| TP404 | F-1 |
| X1 | B-3 |
| X3 | D-3 |


APR-011
1-659-650-11
>EP-GW<
YWP-C
LOT No
S No
A-8272
-640-A
A
B
C
D
E
F
1
2
3
4
5
IC505
IC506
IC309
IC307
IC308
IC305
IC306
IC207
IC205
IC2
IC209
CNI312
IC4
IC3
IC313
IC406
IC1
IC105
IC112
IC310
CNI311
IC208
IC107
IC607
IC110
IC109
CN1
CNI111
CNI211
IC405
IC503
IC504
CN2
CN5
AUX IN
AUX OUT LOCAL
CN4
CN3
AUX OUT REMOTE
SONY
MADE IN JAPAN
S1
S2
X1
X3
L401

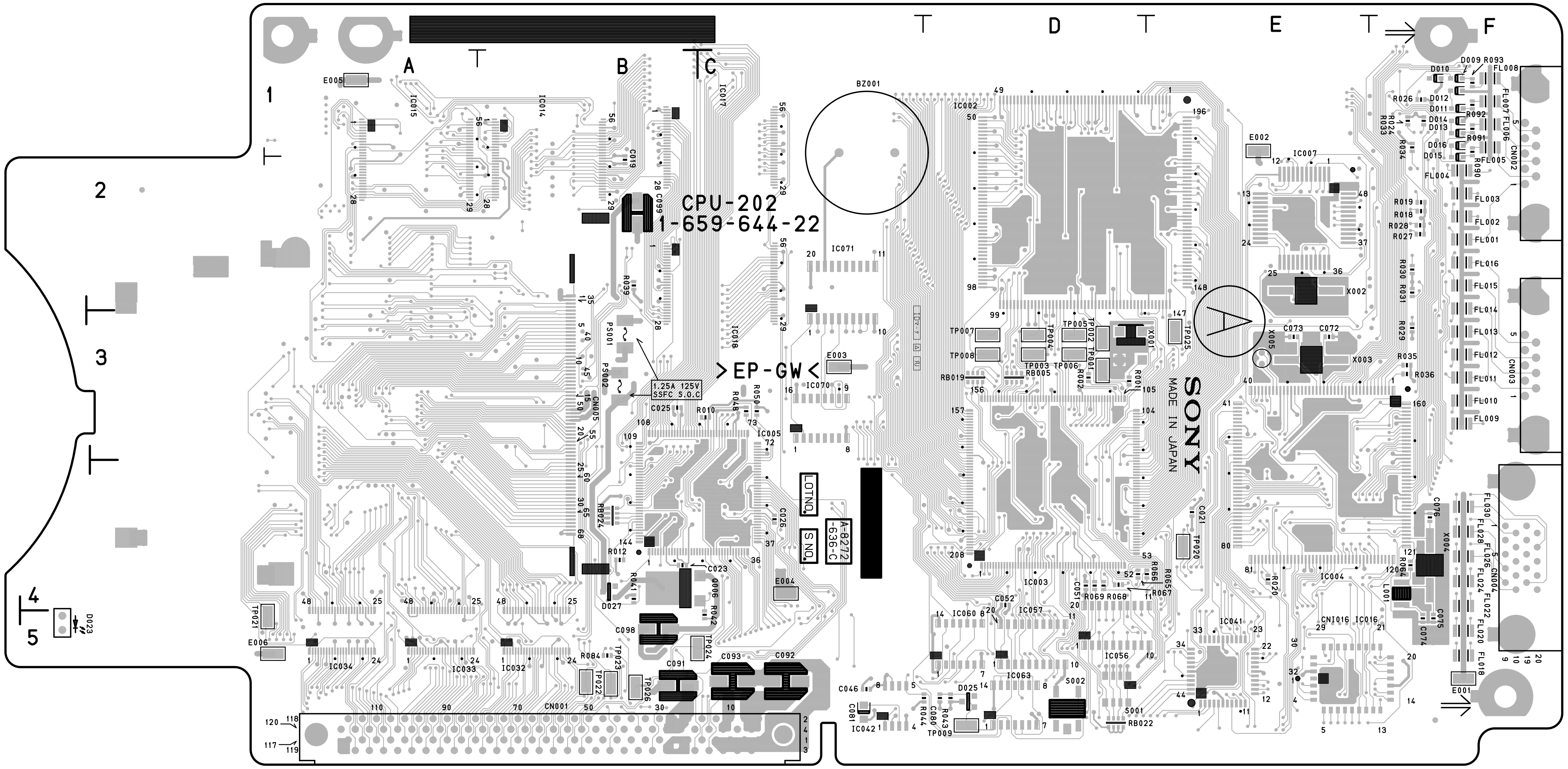
**APR-011** -A SIDE-
1-659-650-11
PCS-P500/P500P ; #10001-

## APR-011 (5/5); AUDIO CODEC (G.711, G.722, G.728) ECHO CANCEL

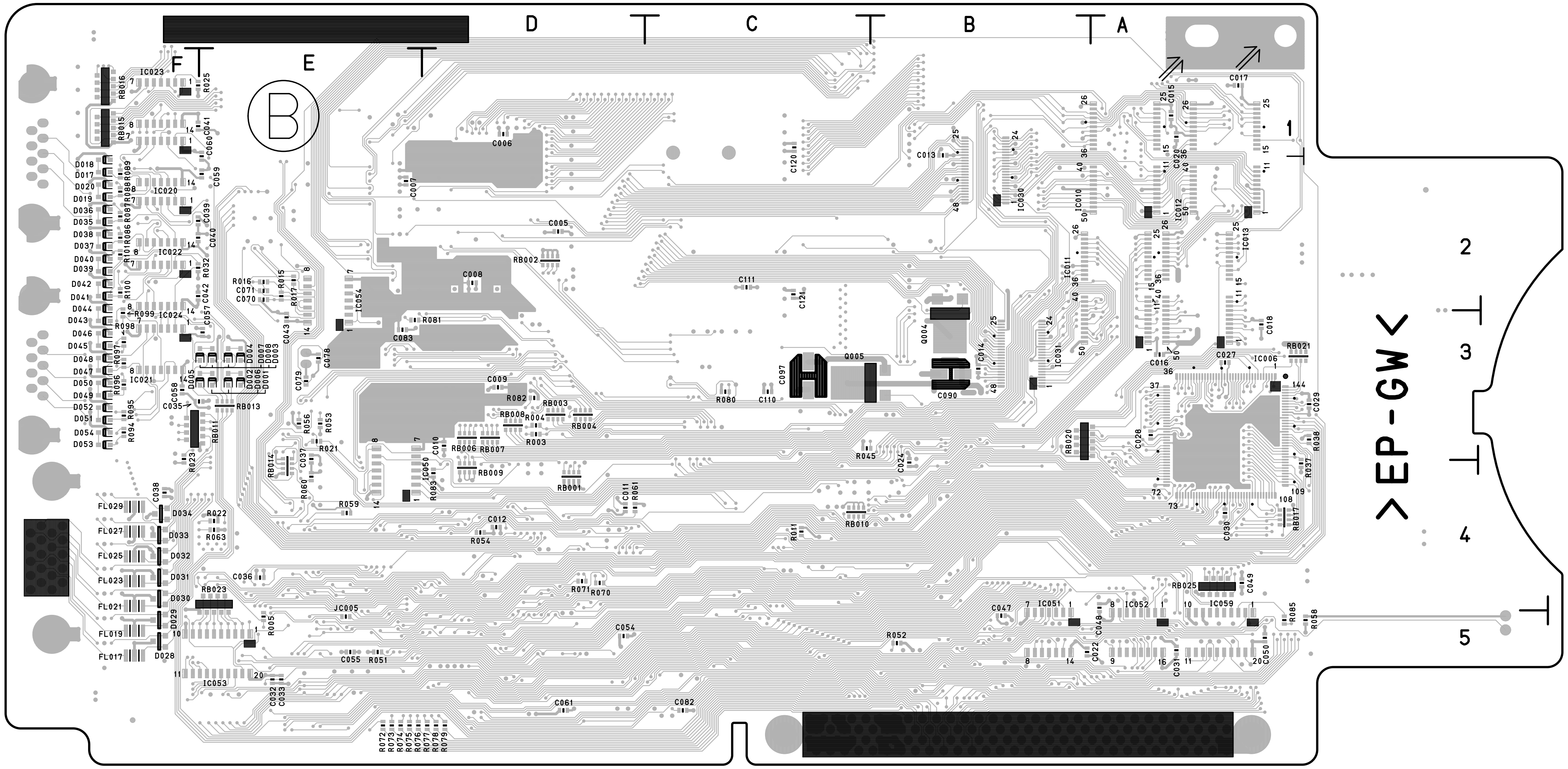

CN1 (2/2)
CN1 (1/2)
RB501 10k
RB502 10k
RB503 10k
RB504 10k
RB505 10k
RB506 10k
RB507 10k
RB508 10k
RB509 100k
IC607 SN74S1052PW :NM (NO MOUNT)
IC503 TC74VHCT244F
IC504 TC74VHCT244F
IC505 TC74VHC244F :NM (NO MOUNT)
IC506 TC74VHC244F :NM (NO MOUNT)
Q501 2SB798
IC501 RH5RE30AA
Q502 2SB798
IC502 RH5RE30AA
3V
3V-2
5V
E1 E2 E3 E4
CPU_IOR
CPU_IOW
CPU_BIR
SA (1..5)
COD_RX
ACLK
SD (0..7)
RESETDRV
CPU_BEN
CPU_SLEEP1
CPU_SLEEP2
BOARD_SEL
NETW_BK
COD_TX
ATFS
ARFS
AU_TX+
AU_TX-
AU_RX+
AU_RX-
CN2 (2/2)
CN2 (1/2)
-12V-2
12V-2
1
2
3
4
5
A
B
C
D
E
F
G
H

**APR-011** BOARD **(5/5)**
1-659-650-11
PCS-P500/P500P ; #10001-

PCS-P500 (J) : SN 63001 and higher
PCS-P500 (UC) : SN 23001 and higher
PCS-P500P (CE) : SN 53001 and higher


A
B
C
D
E
F
1
2
3
4
5
CPU-202
1-659-644-22
>EP-GW<
SONY
MADE IN JAPAN
1.25A 125V
S5FC S.O.C
LOT NO.
S NO.
A-8272-636-C
BZ001
IC002
IC007
IC071
IC070
IC005
IC003
IC004
IC014
IC015
IC017
IC018
IC032
IC033
IC034
IC041
IC042
IC056
IC057
IC060
IC063
CN001
CN002
CN003
CN004
CN005
CN1016
X001
X002
X003
X004
X005
E001
E002
E003
E004
E005
E006
PS001
PS002
S001
S002
D023
D025
D027
TP007
TP008
TP020
TP021
TP022
TP023
TP024
TP025
TP026
TP009

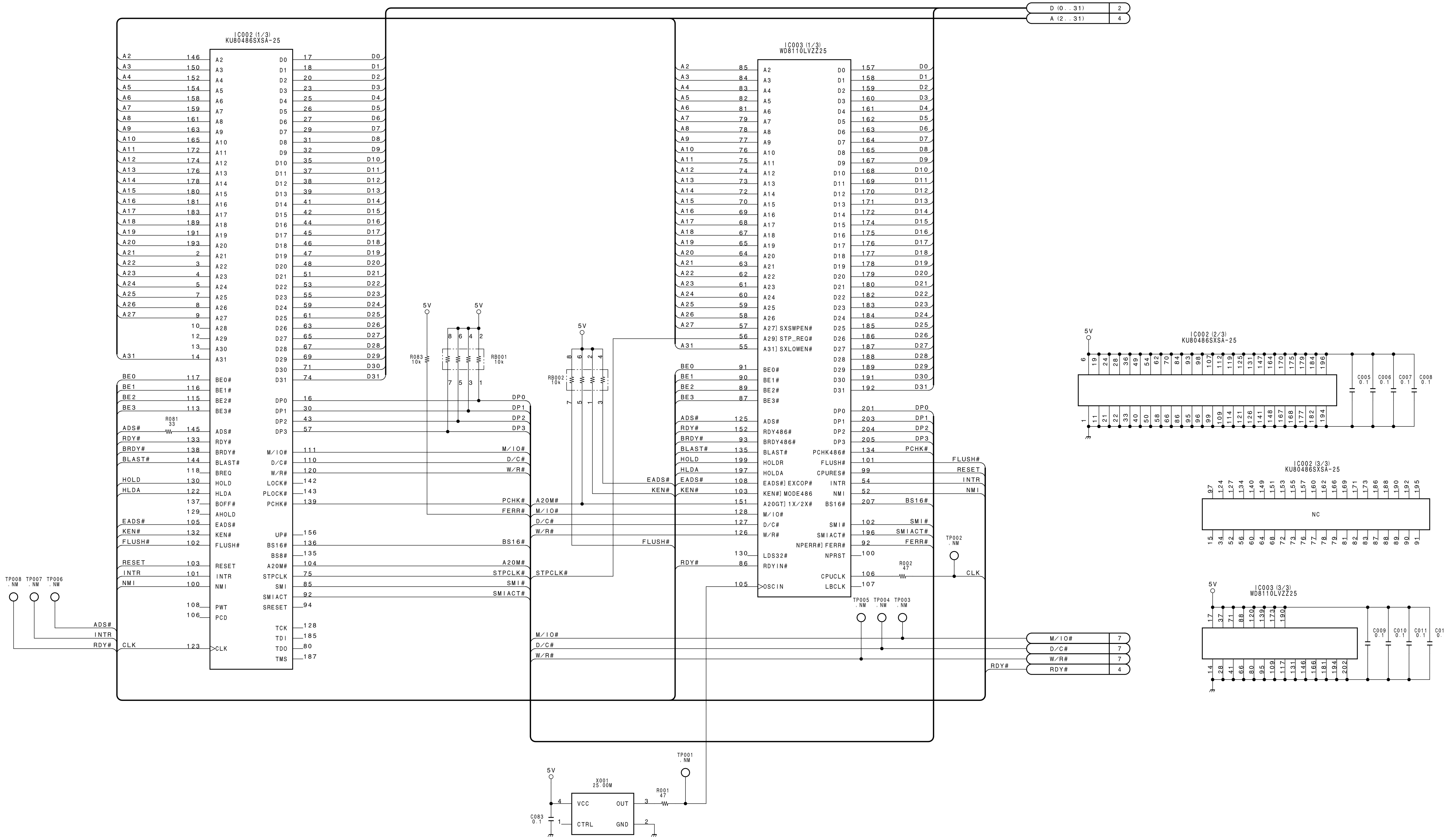
**CPU-202 -A SIDE-**
SUFFIX: -22


D
C
B
A
F
E
1
2
3
4
5
>EP-GW<

**CPU-202** -B SIDE-
SUFFIX: -22

## CPU-202 (1/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |


IC002 (1/3)
KU80486SXSA-25
IC003 (1/3)
WD8110LVZZ25
IC002 (2/3)
KU80486SXSA-25
IC002 (3/3)
KU80486SXSA-25
NC
IC003 (3/3)
WD8110LVZZ25
D (0 . . 31)
A (2 . . 31)
M/IO#
D/C#
W/R#
RDY#
R081 33
R083 10k
RB001 10k
RB002 10k
R002 47
R001 47
X001 25.00M
VCC
OUT
CTRL
GND
C083 0.1
C005 0.1
C006 0.1
C007 0.1
C008 0.1
C009 0.1
C010 0.1
C011 0.1
C012 0.1
TP001 .NM
TP002 .NM
TP003 .NM
TP004 .NM
TP005 .NM
TP006 .NM
TP007 .NM
TP008 .NM
5V
CLK

1
2
3
4
5

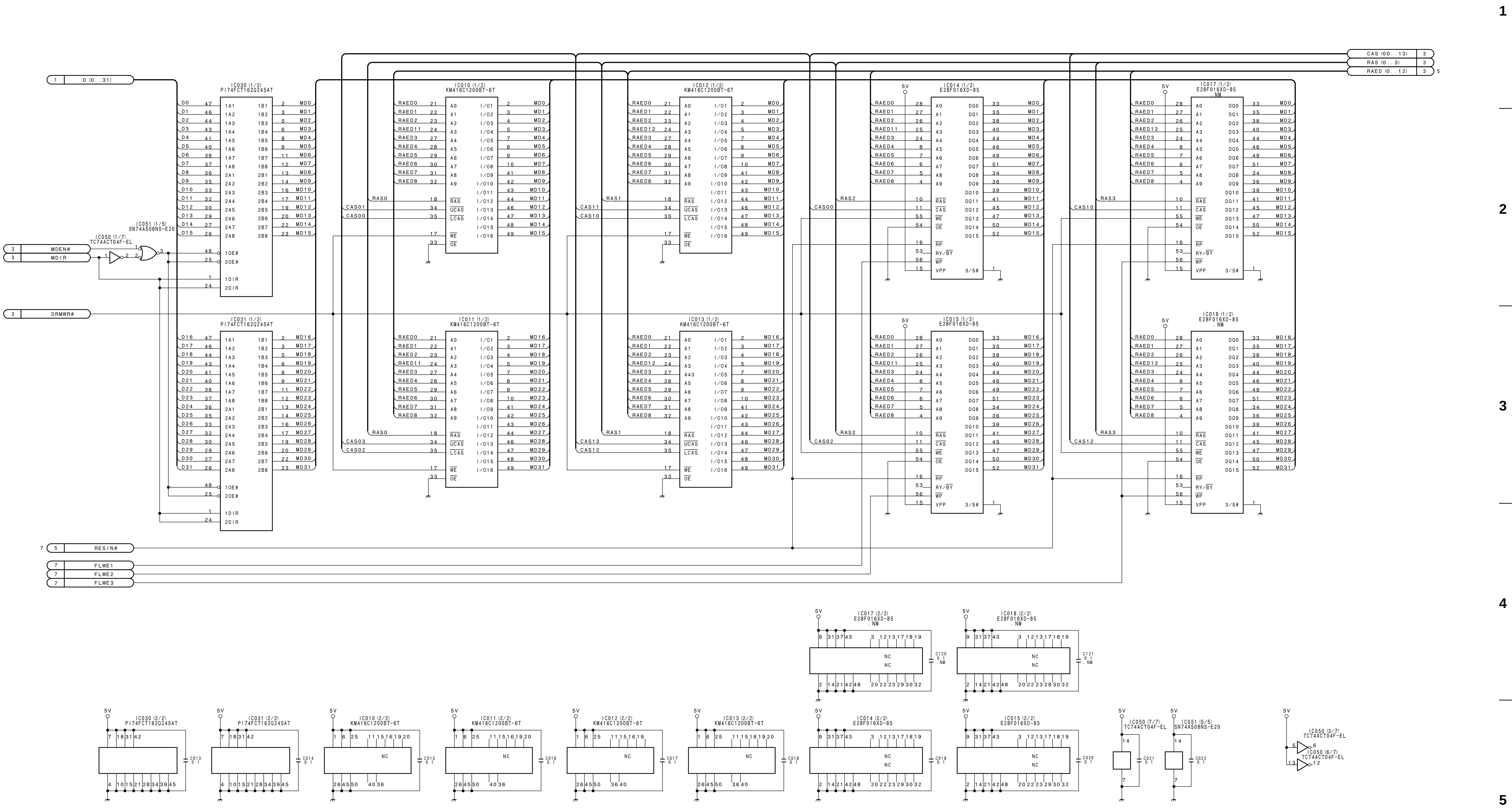
**CPU-202** BOARD **(1/8)**
1-659-644-22
B-NMX112-CPU202D

6-16 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

A B C D E F G H

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## CPU-202 (2/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)


D (0 .. 31)
MDEN#
MDIR
DRMWR#
RESIN#
FLWE1
FLWE2
FLWE3
CAS (00 .. 13)
RAS (0 .. 3)
RAED (0 .. 12)
IC030 (1/2) PI74FCT162Q245AT
IC031 (1/2) PI74FCT162Q245AT
IC050 (1/7) TC74ACT04F-EL
IC051 (1/5) SN74AS08NS-E20
IC010 (1/2) KM416C1200BT-6T
IC011 (1/2) KM416C1200BT-6T
IC012 (1/2) KM416C1200BT-6T
IC013 (1/2) KM416C1200BT-6T
IC014 (1/2) E28F016XD-85
IC015 (1/2) E28F016XD-85
IC017 (1/2) E28F016XD-85 .NM
IC018 (1/2) E28F016XD-85 .NM
IC017 (2/2) E28F016XD-85 .NM
IC018 (2/2) E28F016XD-85 .NM
C120 0.1 .NM
C121 0.1 .NM
IC030 (2/2) PI74FCT162Q245AT
IC031 (2/2) PI74FCT162Q245AT
IC010 (2/2) KM416C1200BT-6T
IC011 (2/2) KM416C1200BT-6T
IC012 (2/2) KM416C1200BT-6T
IC013 (2/2) KM416C1200BT-6T
IC014 (2/2) E28F016XD-85
IC015 (2/2) E28F016XD-85
IC050 (7/7) TC74ACT04F-EL
IC051 (5/5) SN74AS08NS-E20
IC050 (3/7) TC74ACT04F-EL
IC050 (6/7) TC74ACT04F-EL
C013 0.1
C014 0.1
C015 0.1
C016 0.1
C017 0.1
C018 0.1
C019 0.1
C020 0.1
C021 0.1
C022 0.1
5V
NC
1
2
3
4
5
A
B
C
D
E
F
G
H

**CPU-202** BOARD **(2/8)**
1-659-644-22
B-NMX112-CPU202D

## CPU-202 (3/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

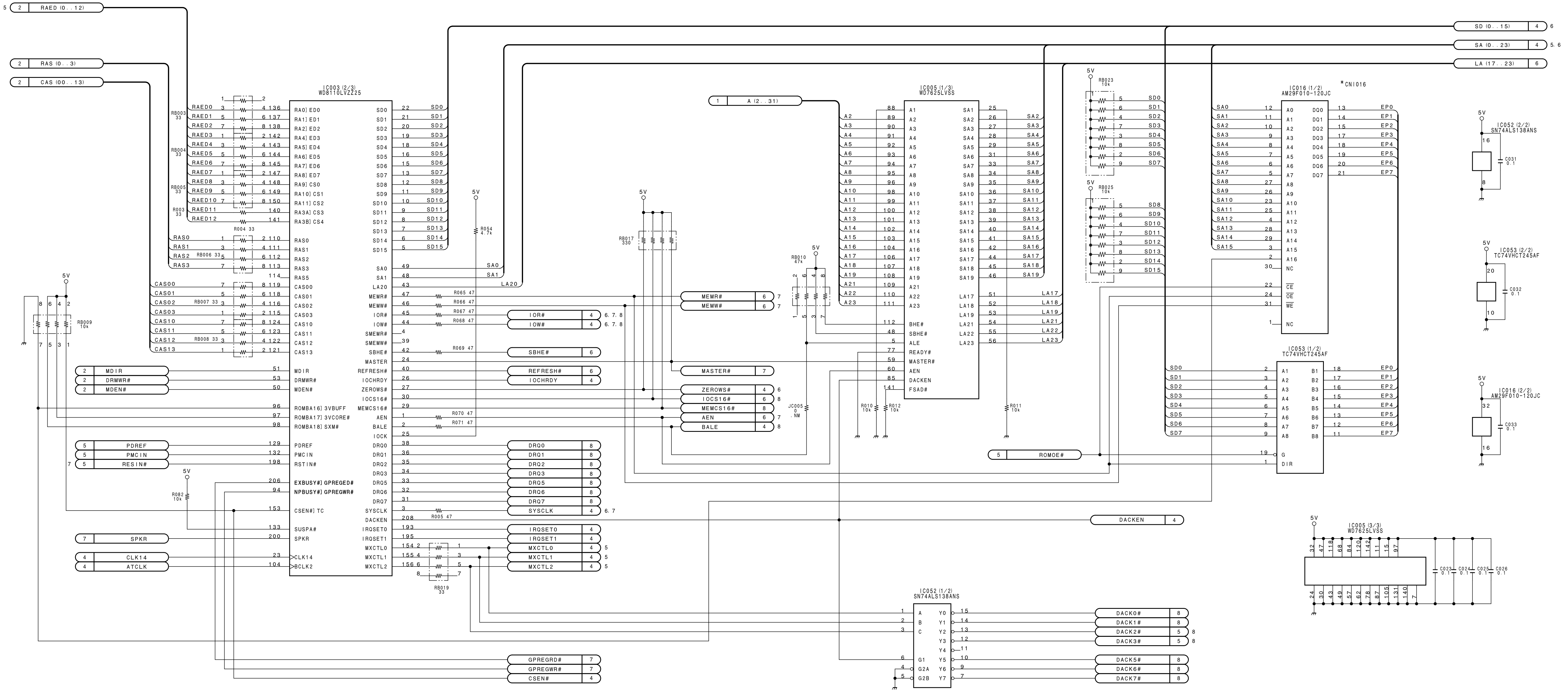
1

2

3

4

5


RAED (0..12)
RAS (0..3)
CAS (00..13)
IC003 (2/3) WD8110LVZZ25
SD (0..15)
SA (0..23)
LA (17..23)
A (2..31)
IC005 (1/3) WD7625LVSS
IC016 (1/2) AM29F010-120JC
*CN1016
IC052 (2/2) SN74ALS138ANS
IC053 (2/2) TC74VHCT245AF
IC016 (2/2) AM29F010-120JC
IC053 (1/2) TC74VHCT245AF
IC005 (3/3) WD7625LVSS
IC052 (1/2) SN74ALS138ANS
MDIR
DRMWR#
MDEN#
PDREF
PMCIN
RESIN#
SPKR
CLK14
ATCLK
MEMR#
MEMW#
IOR#
IOW#
SBHE#
REFRESH#
IOCHRDY
MASTER#
ZEROWS#
IOCS16#
MEMCS16#
AEN
BALE
DRQ0
DRQ1
DRQ2
DRQ3
DRQ5
DRQ6
DRQ7
SYSCLK
IRQSET0
IRQSET1
MXCTL0
MXCTL1
MXCTL2
GPREGRD#
GPREGWR#
CSEN#
DACKEN
ROMOE#
DACK0#
DACK1#
DACK2#
DACK3#
DACK5#
DACK6#
DACK7#
EP0
EP1
EP2
EP3
EP4
EP5
EP6
EP7
5V

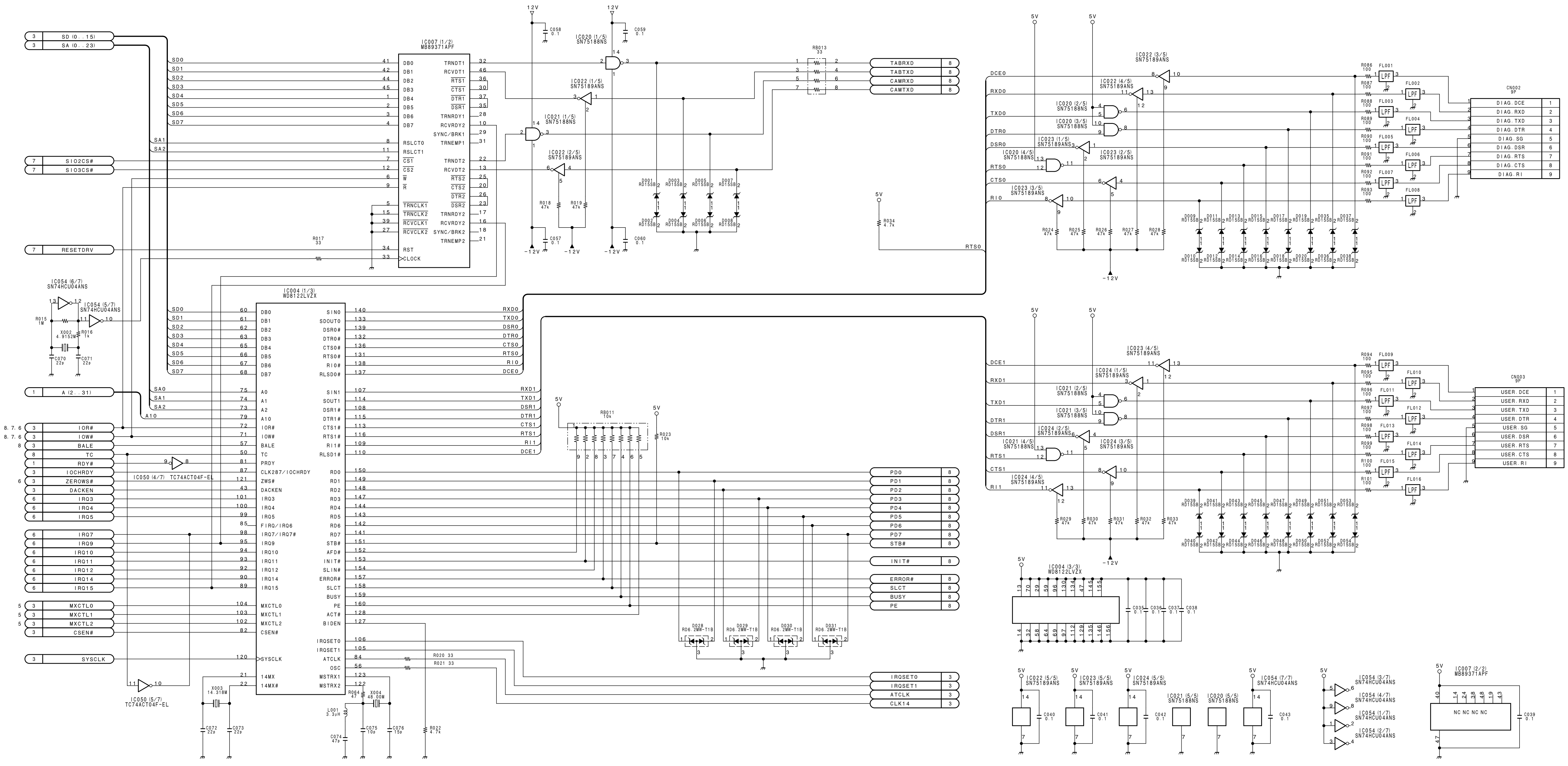
### CPU-202 BOARD (3/8)

1-659-644-22
B-NMX112-CPU202D

A B C D E F G H

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## CPU-202 (4/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

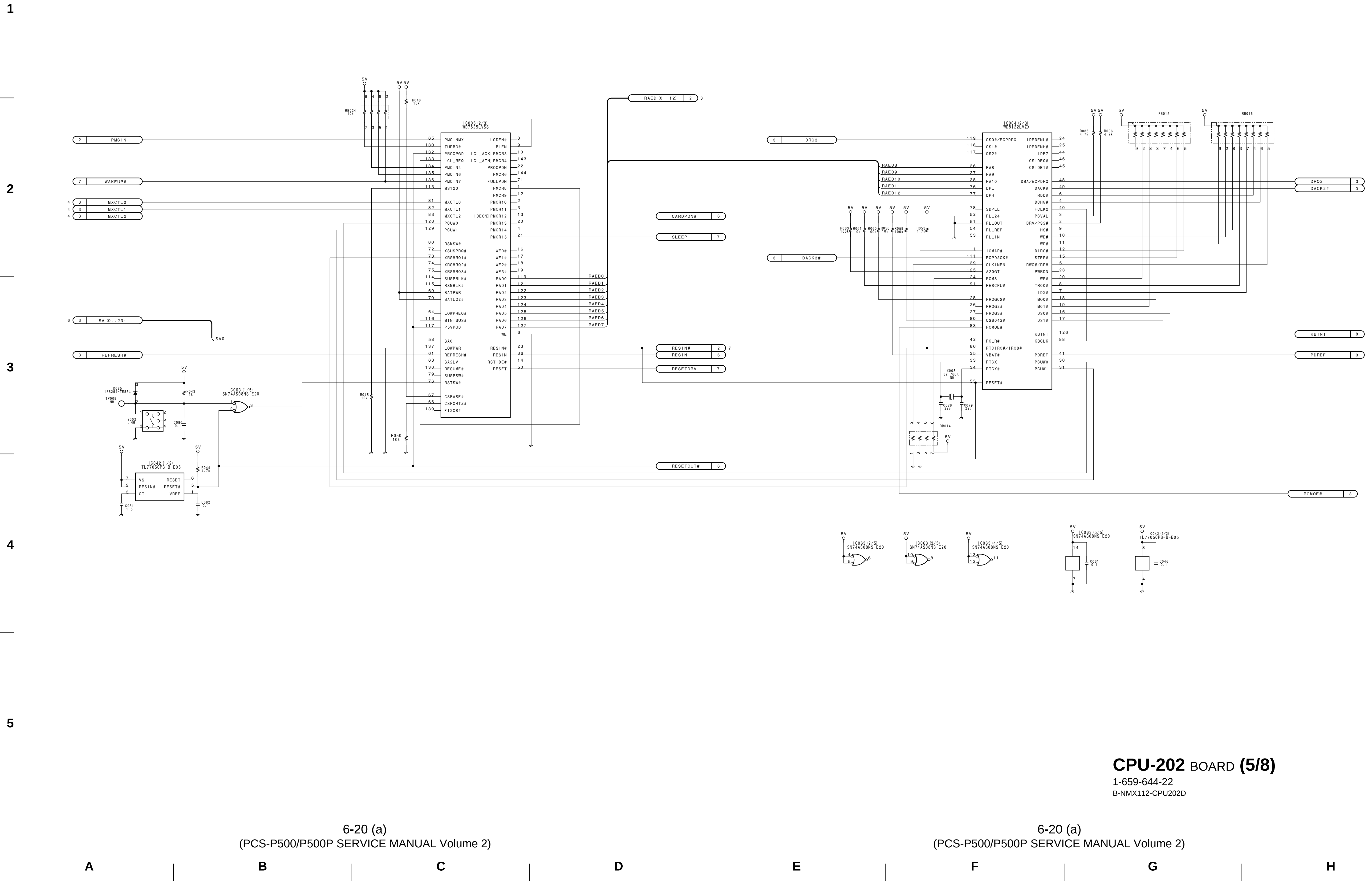

SD (0..15)
SA (0..23)
SIO2CS#
SIO3CS#
RESETDRV
A (2..31)
IOR#
IOW#
BALE
TC
RDY#
IOCHRDY
ZEROWS#
DACKEN
IRQ3
IRQ4
IRQ5
IRQ7
IRQ9
IRQ10
IRQ11
IRQ12
IRQ14
IRQ15
MXCTL0
MXCTL1
MXCTL2
CSEN#
SYSCLK
IC007 (1/2) MB89371APF
IC004 (1/3) WD8122LVZX
IC004 (3/3) WD8122LVZX
IC007 (2/2) MB89371APF
IC020 (1/5) SN75188NS
IC021 (1/5) SN75188NS
IC022 (1/5) SN75189ANS
IC022 (2/5) SN75189ANS
IC054 (6/7) SN74HCU04ANS
IC054 (5/7) SN74HCU04ANS
IC050 (4/7) TC74ACT04F-EL
IC050 (5/7) TC74ACT04F-EL
X002 4.9152MHz
X003 14.318MHz
X004 48.00MHz
RB013 33
RB011 10k
TABRXD
TABTXD
CAMRXD
CAMTXD
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
STB#
INIT#
ERROR#
SLCT
BUSY
PE
IRQSET0
IRQSET1
ATCLK
CLK14
DCE0
RXD0
TXD0
DTR0
DSR0
RTS0
CTS0
RI0
DCE1
RXD1
TXD1
DTR1
DSR1
RTS1
CTS1
RI1
CN002 9P
DIAG.DCE
DIAG.RXD
DIAG.TXD
DIAG.DTR
DIAG.SG
DIAG.DSR
DIAG.RTS
DIAG.CTS
DIAG.RI
CN003 9P
USER.DCE
USER.RXD
USER.TXD
USER.DTR
USER.SG
USER.DSR
USER.RTS
USER.CTS
USER.RI
LPF
12V
-12V
5V
A
B
C
D
E
F
G
H
1
2
3
4
5

**CPU-202** BOARD **(4/8)**
1-659-644-22
B-NMX112-CPU202D

54 (PCS-5100/5100P·J, E)

## CPU-202 (5/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

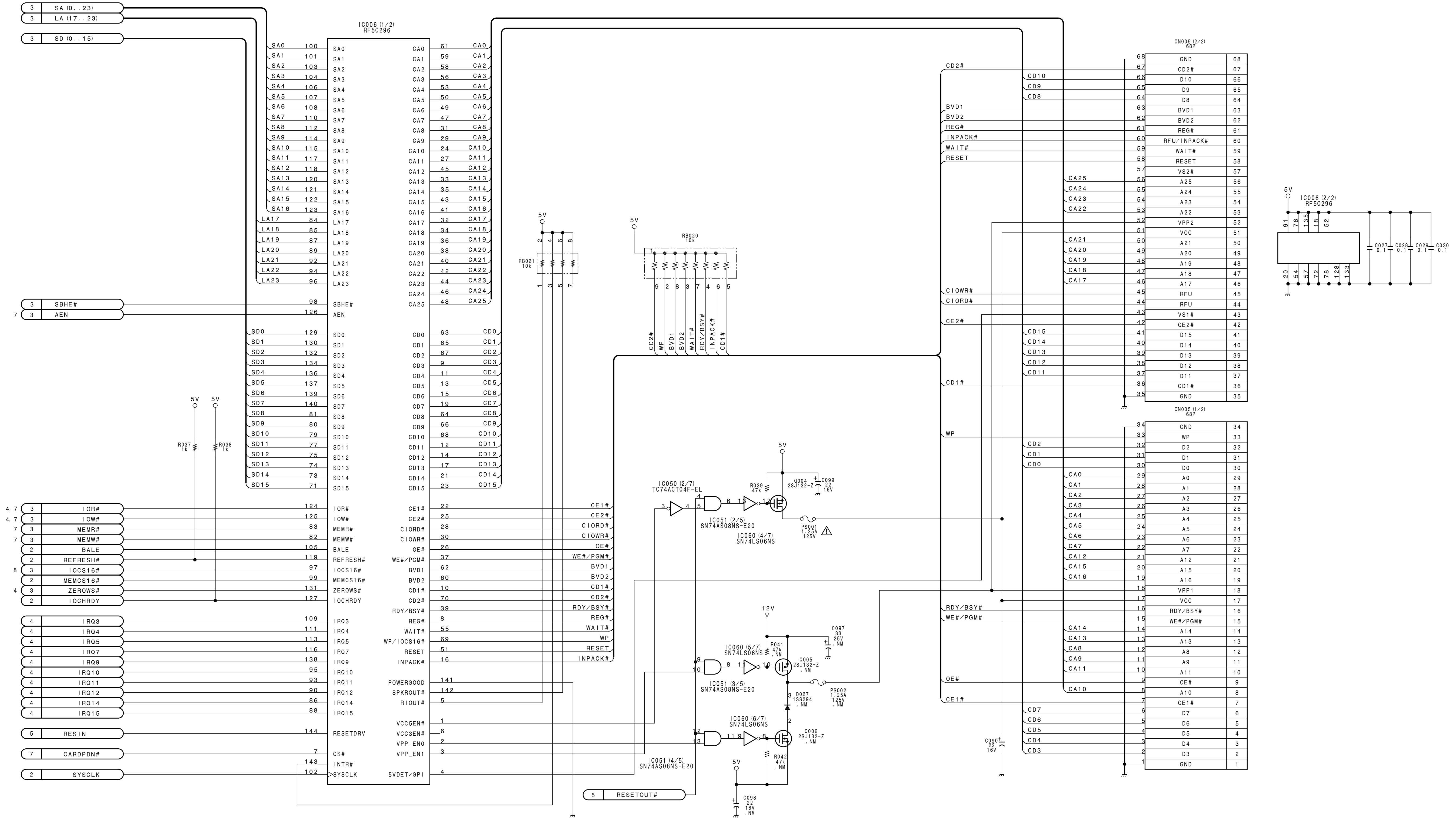

1
2
3
4
5
A
B
C
D
E
F
G
H
IC005 (2/3) WD7625LVSS
IC004 (2/3) WD8122LVZX
IC063 (1/5) SN74AS08NS-E20
IC063 (2/5) SN74AS08NS-E20
IC063 (3/5) SN74AS08NS-E20
IC063 (4/5) SN74AS08NS-E20
IC063 (5/5) SN74AS08NS-E20
IC042 (1/2) TL7705CPS-B-E05
IC042 (2/2) TL7705CPS-B-E05
PMCIN
WAKEUP#
MXCTL0
MXCTL1
MXCTL2
SA (0 . . 23)
SA0
REFRESH#
RAED (0 . . 12)
DRQ3
DACK3#
CARDPDN#
SLEEP
RESIN#
RESIN
RESETDRV
RESETOUT#
DRQ2
DACK2#
KBINT
PDREF
ROMOE#
RAED0
RAED1
RAED2
RAED3
RAED4
RAED5
RAED6
RAED7
RAED8
RAED9
RAED10
RAED11
RAED12
RB024
RB014
RB015
RB016
R048
R043
R044
R045
R050
C078
C079
C080
C081
C082
C061
C046
D025 1SS294-TE85L
TP009
S002
X005 32.768K
5V

**CPU-202** BOARD **(5/8)**
1-659-644-22
B-NMX112-CPU202D

6-20 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## CPU-202 (6/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

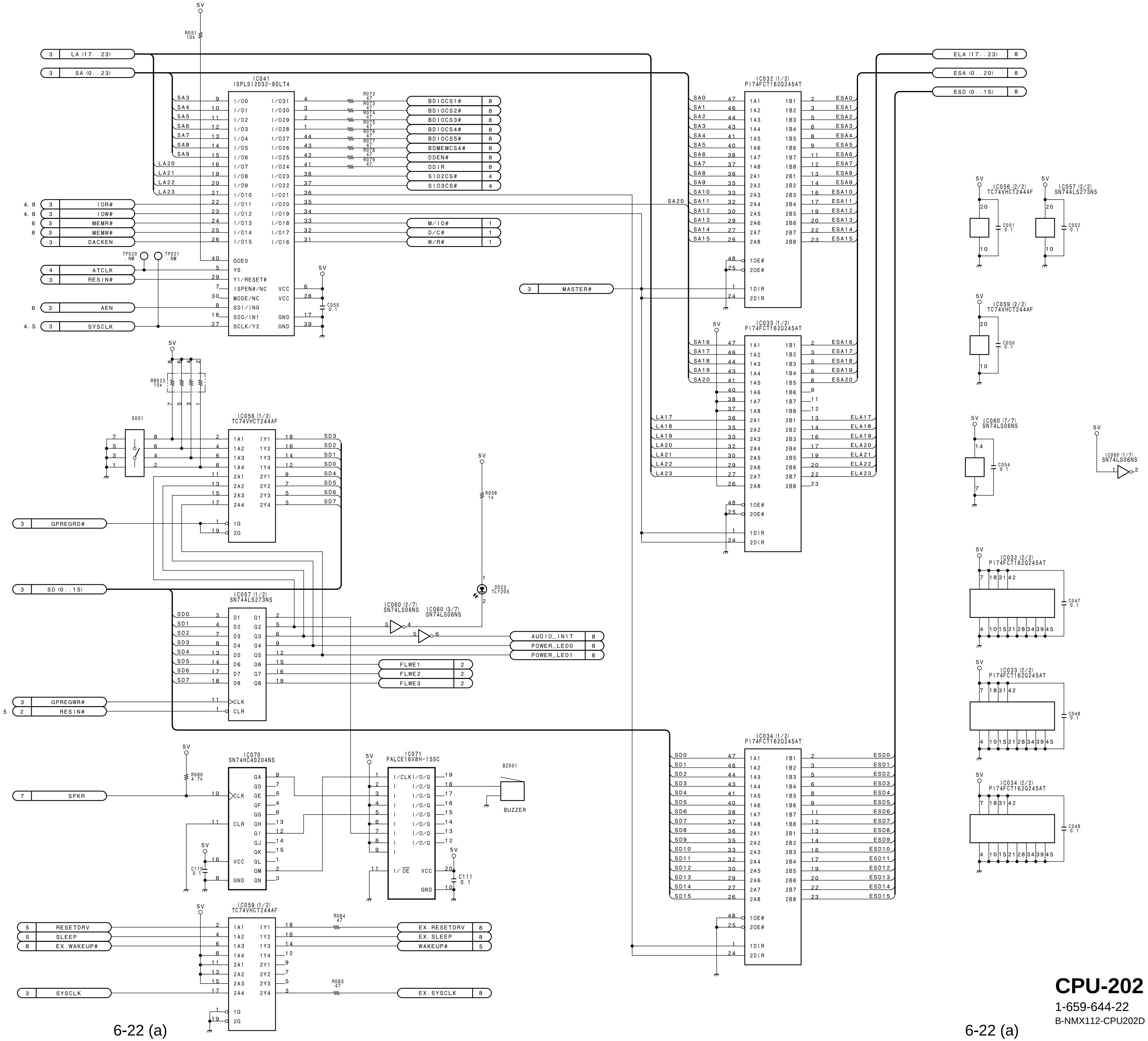

SA (0..23)
LA (17..23)
SD (0..15)
IC006 (1/2)
RF5C296
SBHE#
AEN
IOR#
IOW#
MEMR#
MEMW#
BALE
REFRESH#
IOCS16#
MEMCS16#
ZEROWS#
IOCHRDY
IRQ3
IRQ4
IRQ5
IRQ7
IRQ9
IRQ10
IRQ11
IRQ12
IRQ14
IRQ15
RESIN
CARDPDN#
SYSCLK
RESETDRV
INTR#
POWERGOOD
SPKROUT#
RIOUT#
VCC5EN#
VCC3EN#
VPP_EN0
VPP_EN1
5VDET/GPI
R037 1k
R038 1k
RB021 10k
RB020 10k
5V
12V
IC050 (2/7)
TC74ACT04F-EL
IC051 (2/5)
SN74AS08NS-E20
IC051 (3/5)
SN74AS08NS-E20
IC051 (4/5)
SN74AS08NS-E20
IC060 (4/7)
SN74LS06NS
IC060 (5/7)
SN74LS06NS
IC060 (6/7)
SN74LS06NS
Q004 2SJ132-Z
Q005 2SJ132-Z .NM
Q006 2SJ132-Z .NM
R039 47k
R041 47k .NM
R042 47k .NM
C099 22 16V
C097 33 25V .NM
C098 22 16V .NM
C090 22 16V
PS001 1.25A 125V
PS002 1.25A 125V .NM
D027 1SS294 .NM
RESETOUT#
CN005 (2/2) 68P
CN005 (1/2) 68P
IC006 (2/2)
RF5C296
C027 0.1
C028 0.1
C029 0.1
C030 0.1

## CPU-202 BOARD (6/8)

1-659-644-22
B-NMX112-CPU202D

## CPU-202 (7/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |


IC041 ISPLSI2032-80LT4
IC032 (1/2) PI74FCT162Q245AT
IC033 (1/2) PI74FCT162Q245AT
IC034 (1/2) PI74FCT162Q245AT
IC056 (1/2) TC74VHCT244AF
IC057 (1/2) SN74ALS273NS
IC060 (2/7) SN74LS06NS
IC060 (3/7) SN74LS06NS
IC070 SN74HC4020ANS
IC071 PALCE16V8H-15SC
IC059 (1/2) TC74VHCT244AF
IC056 (2/2) TC74VHCT244AF
IC057 (2/2) SN74ALS273NS
IC059 (2/2) TC74VHCT244AF
IC060 (7/7) SN74LS06NS
IC060 (1/7) SN74LS06NS
IC032 (2/2) PI74FCT162Q245AT
IC033 (2/2) PI74FCT162Q245AT
IC034 (2/2) PI74FCT162Q245AT
LA (17..23)
SA (0..23)
SD (0..15)
ELA (17..23)
ESA (0..20)
ESD (0..15)
IOR#
IOW#
MEMR#
MEMW#
DACKEN
ATCLK
RESIN#
AEN
SYSCLK
MASTER#
GPREGRD#
GPREGWR#
SPKR
RESETDRV
SLEEP
EX.WAKEUP#
BDIOCS1#
BDIOCS2#
BDIOCS3#
BDIOCS4#
BDIOCS5#
BDMEMCS4#
DDEN#
DDIR
SIO2CS#
SIO3CS#
M/IO#
D/C#
W/R#
AUDIO_INIT
POWER_LED0
POWER_LED1
FLWE1
FLWE2
FLWE3
EX.RESETDRV
EX.SLEEP
WAKEUP#
EX.SYSCLK
S001
RB022 10k
R051 10k
R058 1k
R080 4.7k
R084 47
R085 47
D023 TLY205
BZ001
BUZZER
TP020 NM
TP021 NM
C055 0.1
C110 0.1
C111 0.1
5V
A
B
C
D
E
F
G
H
1
2
3
4
5

## CPU-202 BOARD (7/8)

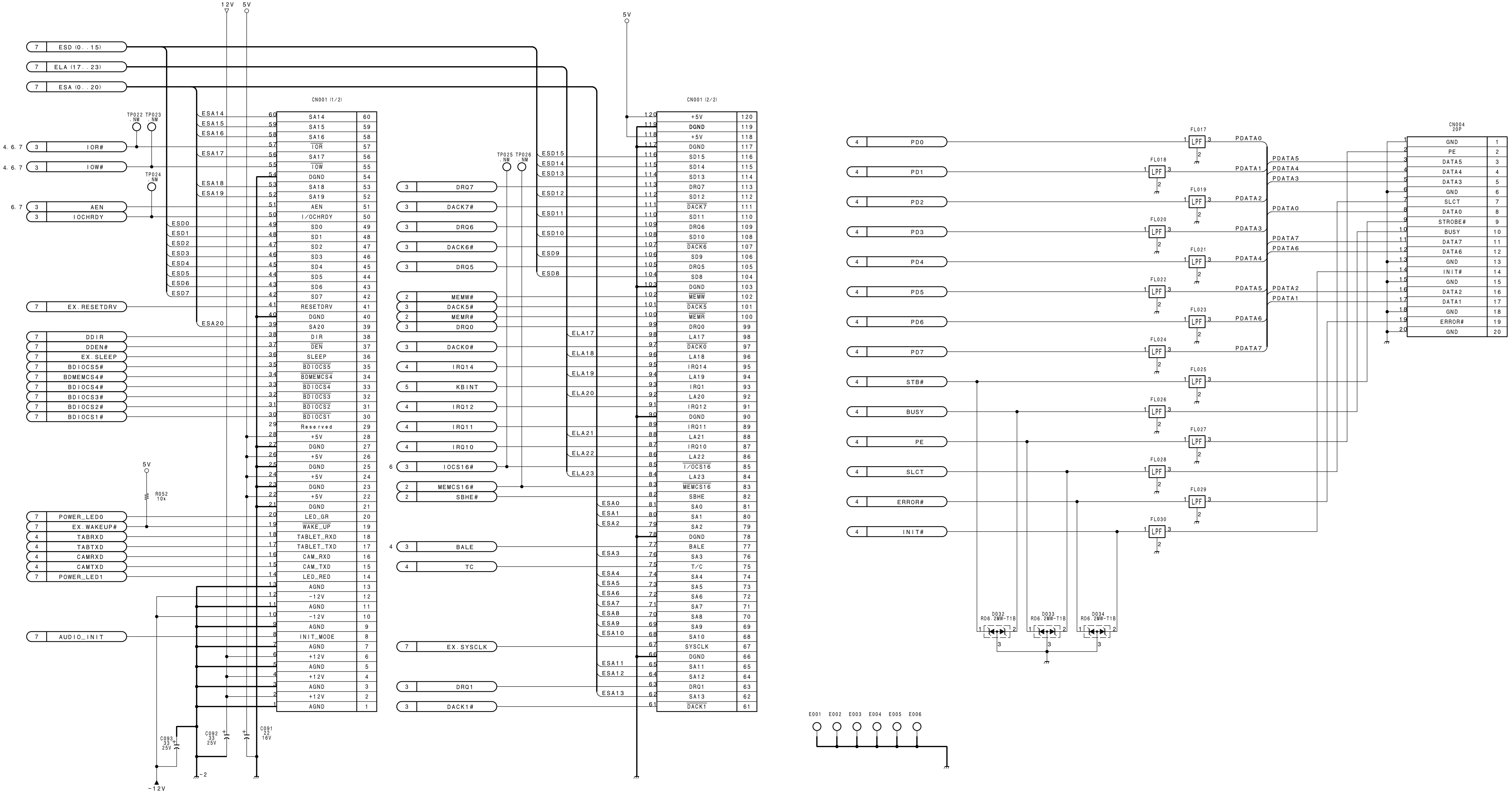
1-659-644-22

B-NMX112-CPU202D

6-22 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## CPU-202 (8/8); SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)


12V
5V
ESD (0..15)
ELA (17..23)
ESA (0..20)
CN001 (1/2)
CN001 (2/2)
TP022 NM
TP023 NM
TP024 NM
TP025 NM
TP026 NM
IOR#
IOW#
AEN
IOCHRDY
EX.RESETDRV
DDIR
DDEN#
EX.SLEEP
BDIOCS5#
BDMEMCS4#
BDIOCS4#
BDIOCS3#
BDIOCS2#
BDIOCS1#
POWER_LED0
EX.WAKEUP#
TABRXD
TABTXD
CAMRXD
CAMTXD
POWER_LED1
AUDIO_INIT
R052 10k
C093 33 25V
C092 33 25V
C091 22 16V
-12V
DRQ7
DACK7#
DRQ6
DACK6#
DRQ5
MEMW#
DACK5#
MEMR#
DRQ0
DACK0#
IRQ14
KBINT
IRQ12
IRQ11
IRQ10
IOCS16#
MEMCS16#
SBHE#
BALE
TC
EX.SYSCLK
DRQ1
DACK1#
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
STB#
BUSY
PE
SLCT
ERROR#
INIT#
FL017
FL018
FL019
FL020
FL021
FL022
FL023
FL024
FL025
FL026
FL027
FL028
FL029
FL030
LPF
PDATA0
PDATA1
PDATA2
PDATA3
PDATA4
PDATA5
PDATA6
PDATA7
CN004 20P
GND
PE
DATA5
DATA4
DATA3
SLCT
DATA0
STROBE#
BUSY
DATA7
DATA6
INIT#
DATA2
DATA1
ERROR#
D032 RD6.2MW-T1B
D033 RD6.2MW-T1B
D034 RD6.2MW-T1B
E001
E002
E003
E004
E005
E006

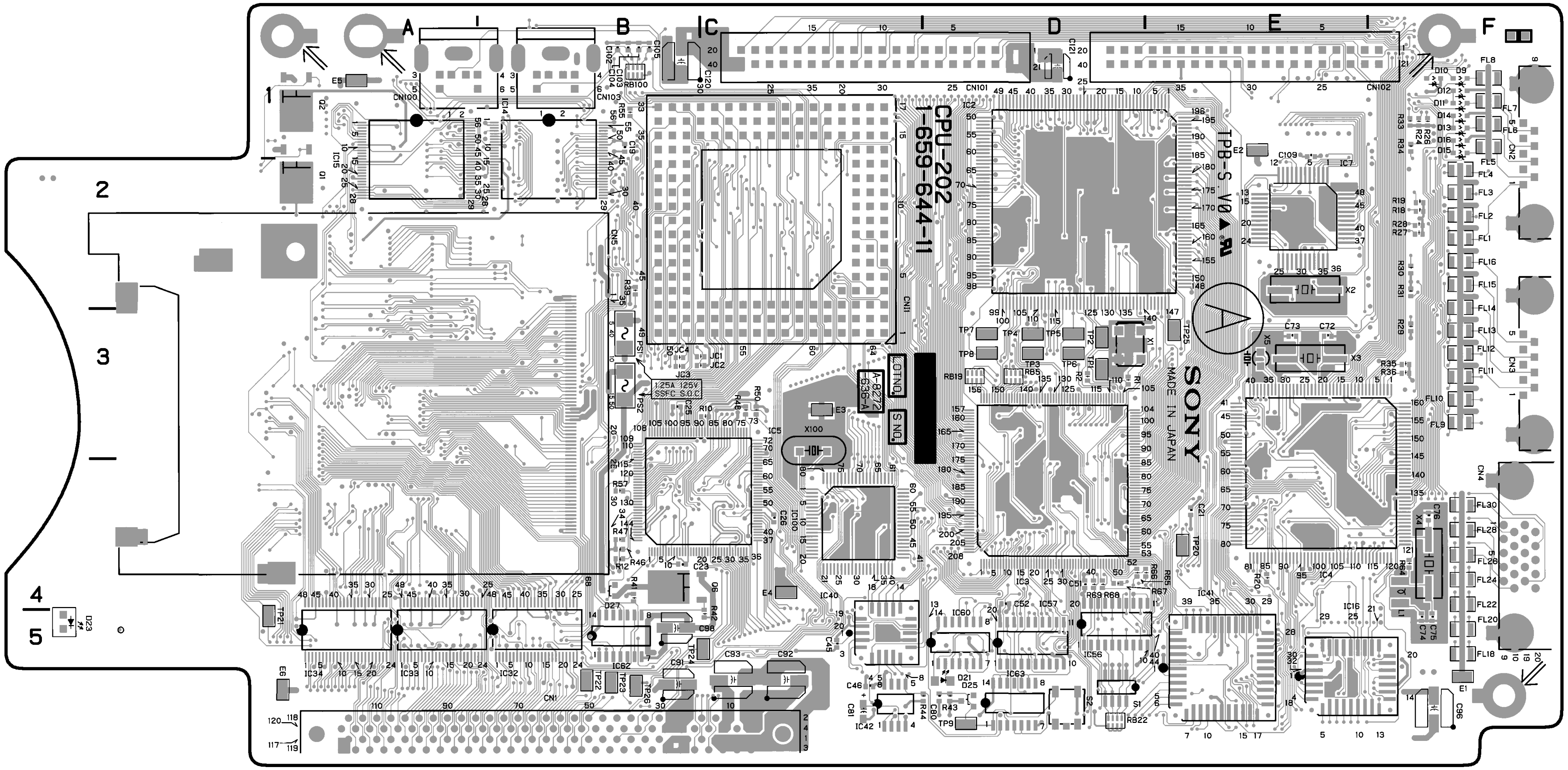
**CPU-202** BOARD **(8/8)**
1-659-644-22
B-NMX112-CPU202D

## CPU-202 ; SYSTEM MAIN CONTROL (MEMORY, I/O, IC CARD)

CPU-202 (1-659-644-11)

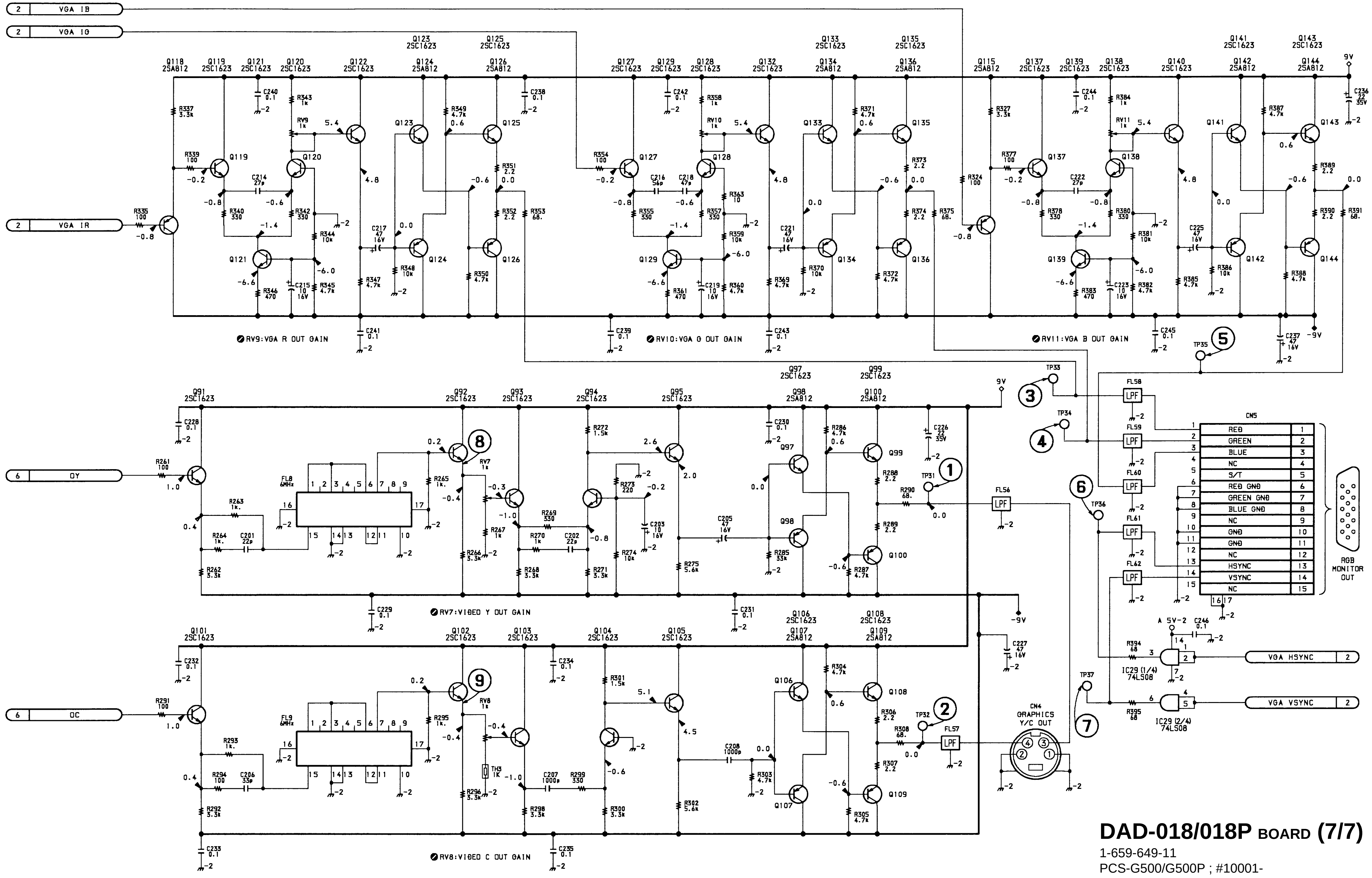
*:B SDIE

| | |
|---|---|
| CNI16 | E-5 |
| CNI40 | C-4 |
| CNI41 | E-4 |
| CN1 | C-5 |
| CN2 | F-1 |
| CN3 | F-3 |
| CN4 | F-4 |
| CN5 | B-3 |
| D1 | *E-3 |
| D2 | *E-3 |
| D3 | *E-3 |
| D4 | *E-3 |
| D5 | *E-3 |
| D6 | *E-3 |
| D7 | *E-3 |
| D8 | *E-3 |
| D9 | F-1 |
| D10 | F-1 |
| D11 | F-1 |
| D12 | F-1 |
| D13 | F-1 |
| D14 | F-1 |
| D15 | F-1 |
| D16 | F-1 |
| D17 | *F-2 |
| D18 | *F-2 |
| D19 | *F-2 |
| D20 | *F-2 |
| D21 | D-5 |
| D23 | A-5 |
| D25 | D-5 |
| D28 | *F-5 |
| D29 | *F-5 |
| D30 | *F-4 |
| D31 | *F-4 |
| D32 | *F-4 |
| D33 | *F-4 |
| D34 | *F-4 |
| D35 | *F-2 |
| D36 | *F-2 |
| D37 | *F-2 |
| D38 | *F-2 |
| D39 | *F-2 |
| D40 | *F-2 |
| D41 | *F-2 |
| D42 | *F-2 |
| D43 | *F-3 |
| D44 | *F-2 |
| D45 | *F-3 |
| D46 | *F-3 |
| D47 | *F-3 |
| D48 | *F-3 |
| D49 | *F-3 |
| D50 | *F-3 |
| D51 | *F-3 |
| D52 | *F-3 |
| D53 | *F-3 |
| D54 | *F-3 |
| E1 | F-5 |
| E2 | E-1 |
| E3 | C-3 |
| E4 | C-4 |
| E5 | A-1 |
| E6 | A-5 |
| FL1 | F-2 |
| FL2 | F-2 |
| FL3 | F-2 |
| FL4 | F-2 |
| FL5 | F-1 |
| FL6 | F-1 |
| FL7 | F-1 |
| FL8 | F-1 |
| FL9 | F-3 |
| FL10 | F-3 |
| FL11 | F-3 |
| FL12 | F-3 |
| FL13 | F-3 |
| FL14 | F-2 |
| FL15 | F-2 |
| FL16 | F-2 |
| FL17 | *F-5 |
| FL18 | F-5 |
| FL19 | *F-5 |
| FL20 | F-5 |
| FL21 | *F-4 |
| FL22 | F-4 |
| FL23 | *F-4 |
| FL24 | F-4 |
| FL25 | *F-4 |
| FL26 | F-4 |
| FL27 | *F-4 |
| FL28 | F-4 |
| FL29 | *F-4 |
| FL30 | F-4 |
| IC2 | D-2 |
| IC3 | D-4 |
| IC4 | E-4 |
| IC5 | B-4 |
| IC6 | *A-3 |
| IC7 | E-2 |
| IC10 | *A-1 |
| IC11 | *A-2 |
| IC12 | *A-1 |
| IC13 | *A-2 |
| IC14 | B-2 |
| IC15 | A-2 |
| IC20 | *F-2 |
| IC21 | *F-3 |
| IC22 | *F-2 |
| IC23 | *F-1 |
| IC24 | *F-2 |
| IC30 | *B-2 |
| IC31 | *B-3 |
| IC32 | B-5 |
| IC33 | A-5 |
| IC34 | A-5 |
| IC42 | C-5 |
| IC50 | *E-4 |
| IC51 | *B-5 |
| IC52 | *A-5 |
| IC53 | *E-5 |
| IC54 | *E-2 |
| IC56 | D-5 |
| IC57 | D-5 |
| IC59 | *A-5 |
| IC60 | D-5 |
| IC62 | B-5 |
| IC63 | D-5 |
| JC5 | *E-5 |
| L1 | F-4 |
| PS1 | B-3 |
| Q1 | A-2 |
| Q2 | A-1 |
| Q4 | *B-3 |
| RB1 | *D-4 |
| RB2 | *D-2 |
| RB3 | *D-3 |
| RB4 | *D-3 |
| RB5 | D-3 |
| RB6 | *D-3 |
| RB7 | *D-3 |
| RB8 | *D-3 |
| RB9 | *D-4 |
| RB10 | *C-4 |
| RB11 | *F-3 |
| RB13 | *E-3 |
| RB14 | *E-4 |
| RB15 | *F-1 |
| RB16 | *F-1 |
| RB17 | *A-4 |
| RB19 | D-3 |
| RB20 | *B-3 |
| RB21 | *A-3 |
| RB22 | D-5 |
| RB23 | *E-4 |
| S1 | D-5 |
| TP1 | D-3 |
| TP2 | D-3 |
| TP3 | D-3 |
| TP4 | D-3 |
| TP5 | D-3 |
| TP6 | D-3 |
| TP7 | D-3 |
| TP8 | D-3 |
| TP9 | D-5 |
| TP20 | E-4 |
| TP21 | A-5 |
| TP22 | B-5 |
| TP23 | B-5 |
| TP24 | C-5 |
| TP25 | E-3 |
| TP26 | B-5 |
| X1 | D-3 |
| X2 | E-2 |
| X3 | E-3 |
| X4 | F-4 |



**CPU-202** **-A SIDE-**
1-659-644-11
PCS-P500/P500P ; #10001-

## DAD-018/018P (7/7); DUAL MONITOR, U.V DECODE, RGB → Y.U.V CONVERT


VGA IB
VGA IG
VGA IR
DY
DC
VGA HSYNC
VGA VSYNC
RV9:VGA R OUT GAIN
RV10:VGA G OUT GAIN
RV11:VGA B OUT GAIN
RV7:VIDEO Y OUT GAIN
RV8:VIDEO C OUT GAIN
Q118 2SA812
Q119 2SC1623
Q121 2SC1623
Q120 2SC1623
Q122 2SC1623
Q123 2SC1623
Q124 2SA812
Q125 2SC1623
Q126 2SA812
Q127 2SC1623
Q129 2SC1623
Q128 2SC1623
Q132 2SC1623
Q133 2SC1623
Q134 2SA812
Q135 2SC1623
Q136 2SA812
Q115 2SA812
Q137 2SC1623
Q139 2SC1623
Q138 2SC1623
Q140 2SC1623
Q141 2SC1623
Q142 2SA812
Q143 2SC1623
Q144 2SA812
Q91 2SC1623
Q92 2SC1623
Q93 2SC1623
Q94 2SC1623
Q95 2SC1623
Q97 2SC1623
Q98 2SA812
Q99 2SC1623
Q100 2SA812
Q101 2SC1623
Q102 2SC1623
Q103 2SC1623
Q104 2SC1623
Q105 2SC1623
Q106 2SC1623
Q107 2SA812
Q108 2SC1623
Q109 2SA812
FL8 6MHz
FL9 6MHz
FL56 LPF
FL57 LPF
FL58 LPF
FL59 LPF
FL60 LPF
FL61 LPF
FL62 LPF
9V
-9V
TP31
TP32
TP33
TP34
TP35
TP36
TP37
①
②
③
④
⑤
⑥
⑦
⑧
⑨
CN5
1 RED
2 GREEN
3 BLUE
4 NC
5 S/T
6 RED GND
7 GREEN GND
8 BLUE GND
9 NC
10 GND
11 GND
12 NC
13 HSYNC
14 VSYNC
15 NC
RGB MONITOR OUT
CN4 GRAPHICS Y/C OUT
IC29 (1/4) 74LS08
IC29 (2/4) 74LS08
A 5V-2
R394 68
R395 68
C246 0.1

## DAD-018/018P BOARD (7/7)

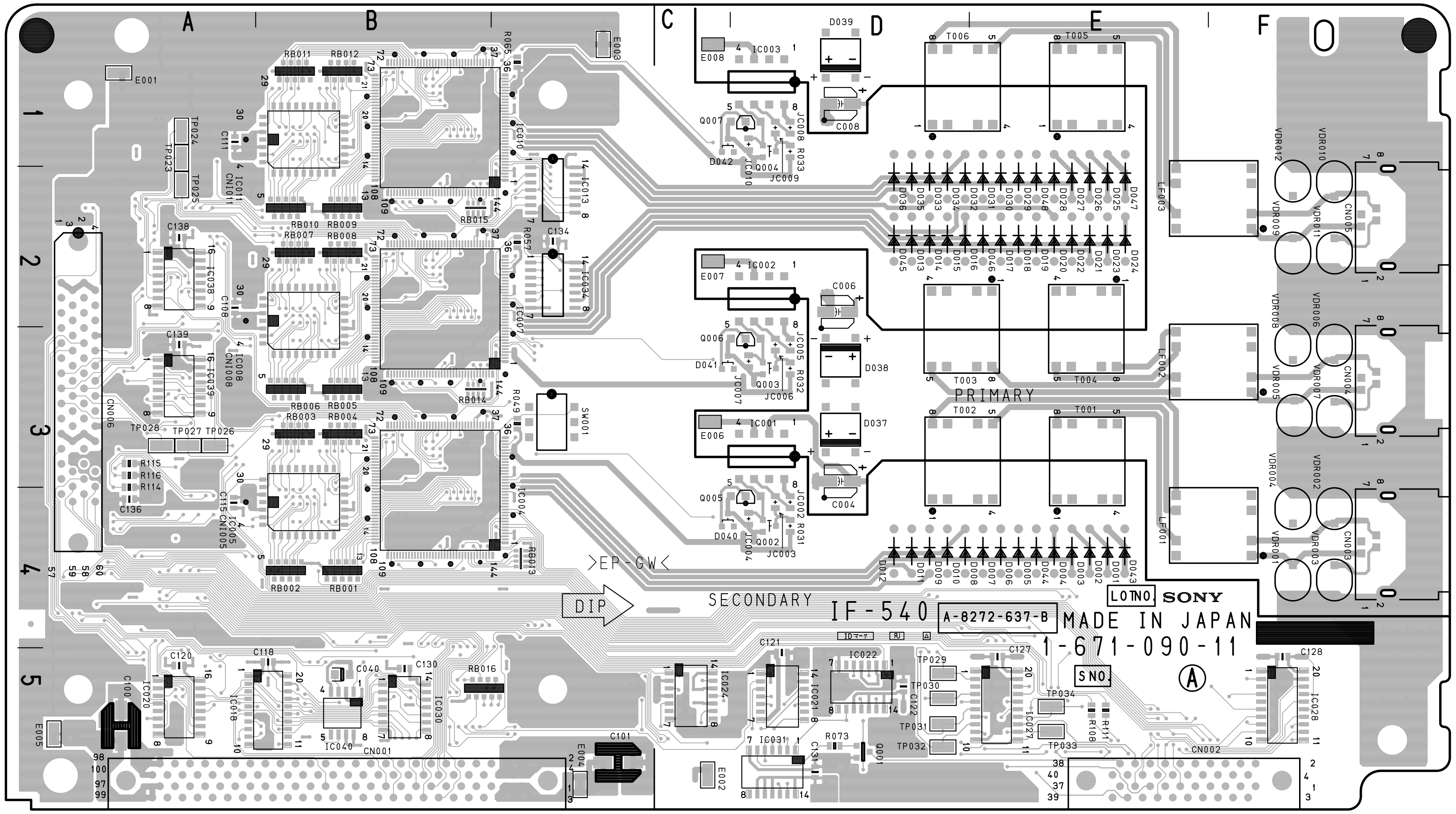
1-659-649-11
PCS-G500/G500P ; #10001-

1 2 3 4 5

A B C D E F G H

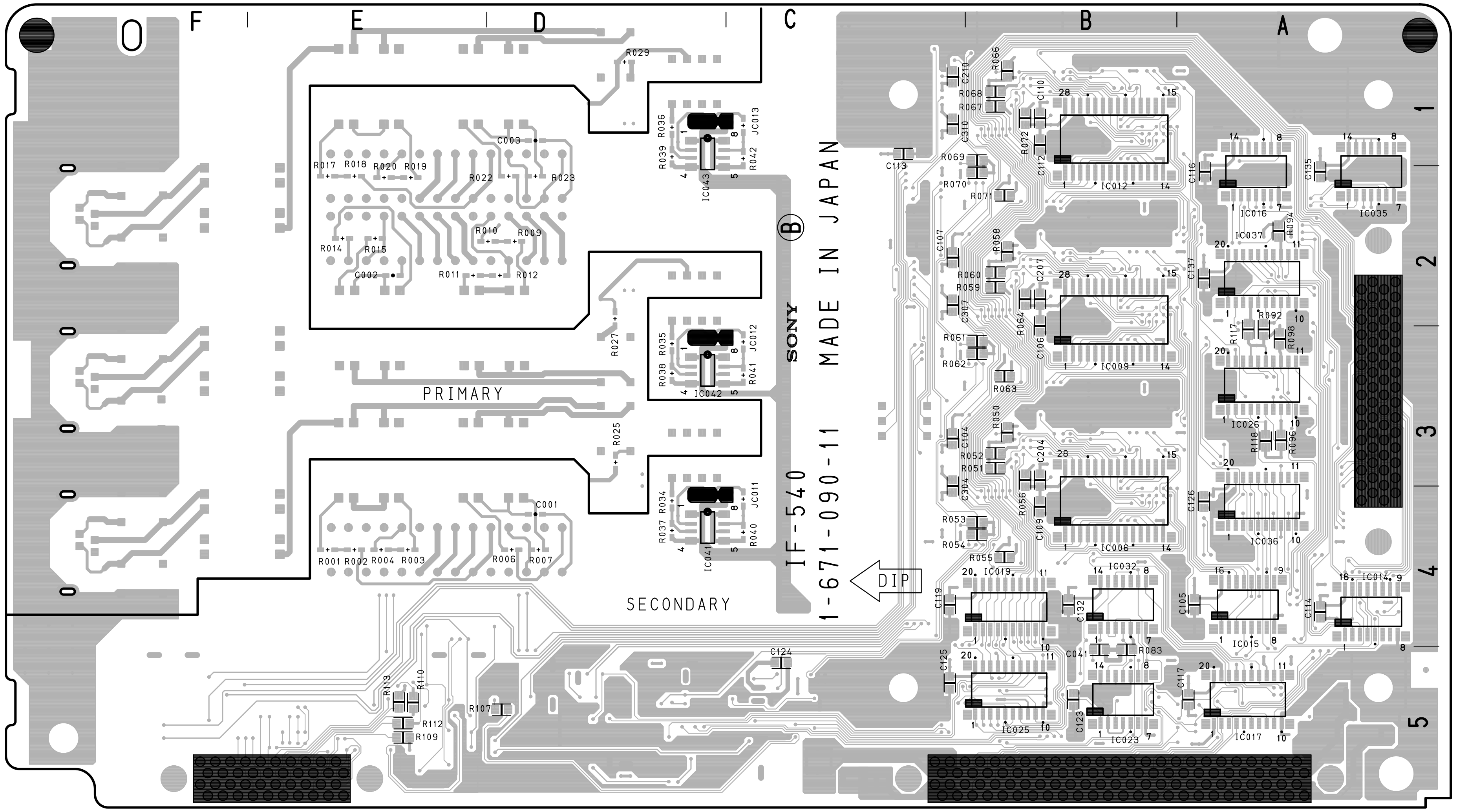
6-71
(PCS-P500/P500P SERVICE MANUAL Volume 2)

PCS-P500 (J) : SN 63001 and higher
PCS-P500 (UC) : SN 23001 and higher


A
B
C
D
E
F
1
2
3
4
5
IF-540
A-8272-637-B
MADE IN JAPAN
1-671-090-11
SONY
LOT NO.
S NO.
PRIMARY
SECONDARY
DIP
>EP-GW<
CN001
CN002
CN003
CN004
CN005
CN006
SW001
T001
T002
T003
T004
T005
T006
LF001
LF002
LF003
IC001
IC002
IC003
IC004
IC005
IC006
IC007
IC008
IC009
IC010
IC011
IC013
IC018
IC020
IC022
IC024
IC027
IC028
IC030
IC031
IC034
IC038
IC039
IC040
D037
D038
D039
Q001
Q002
Q003
Q004
Q005
Q006
Q007
E001
E002
E003
E004
E005
E006
E007
E008
RB001
RB002
RB003
RB004
RB005
RB006
RB007
RB008
RB009
RB010
RB011
RB012
RB013
RB014
RB015
RB016

**IF-540** **-A SIDE-**

SUFFIX: -11

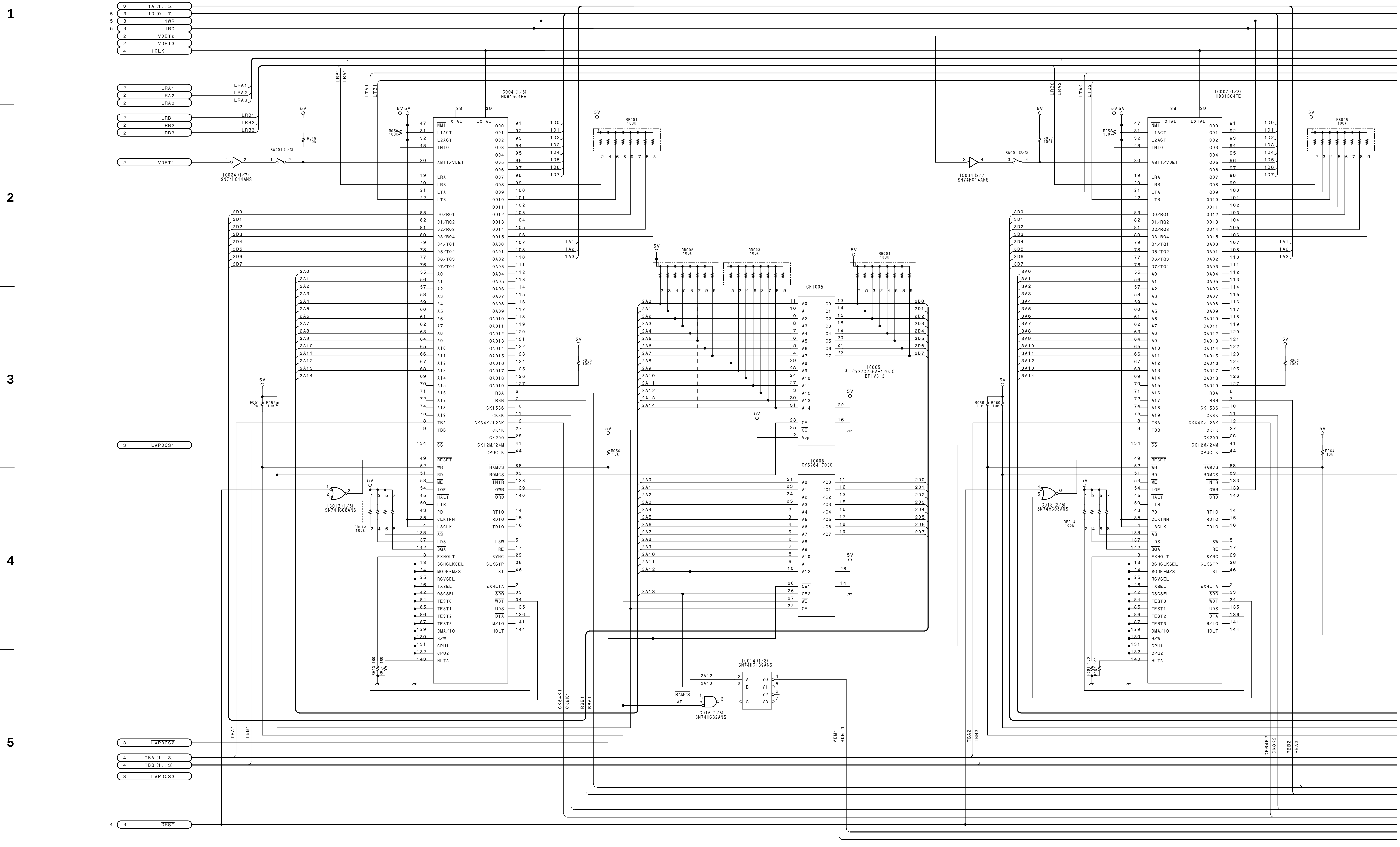

F
E
D
C
B
A
1
2
3
4
5
PRIMARY
SECONDARY
SONY
MADE IN JAPAN
IF-540
1-671-090-11
DIP
IC041
IC042
IC043
IC006
IC009
IC012
IC014
IC015
IC016
IC017
IC019
IC023
IC025
IC026
IC032
IC035
IC036
IC037
C001
C002
C003
C041
C104
C105
C106
C107
C109
C110
C112
C113
C114
C116
C117
C119
C123
C124
C125
C126
C132
C135
C137
C204
C207
C210
C304
C307
C310
R001
R002
R003
R004
R006
R007
R009
R010
R011
R012
R014
R015
R017
R018
R019
R020
R022
R023
R025
R027
R029
R034
R035
R036
R037
R038
R039
R040
R041
R042
R050
R051
R052
R053
R054
R055
R056
R058
R059
R060
R061
R062
R063
R064
R066
R067
R068
R069
R070
R071
R072
R083
R092
R094
R096
R098
R107
R109
R110
R112
R113
R117
R118

**IF-540** **-B SIDE-**

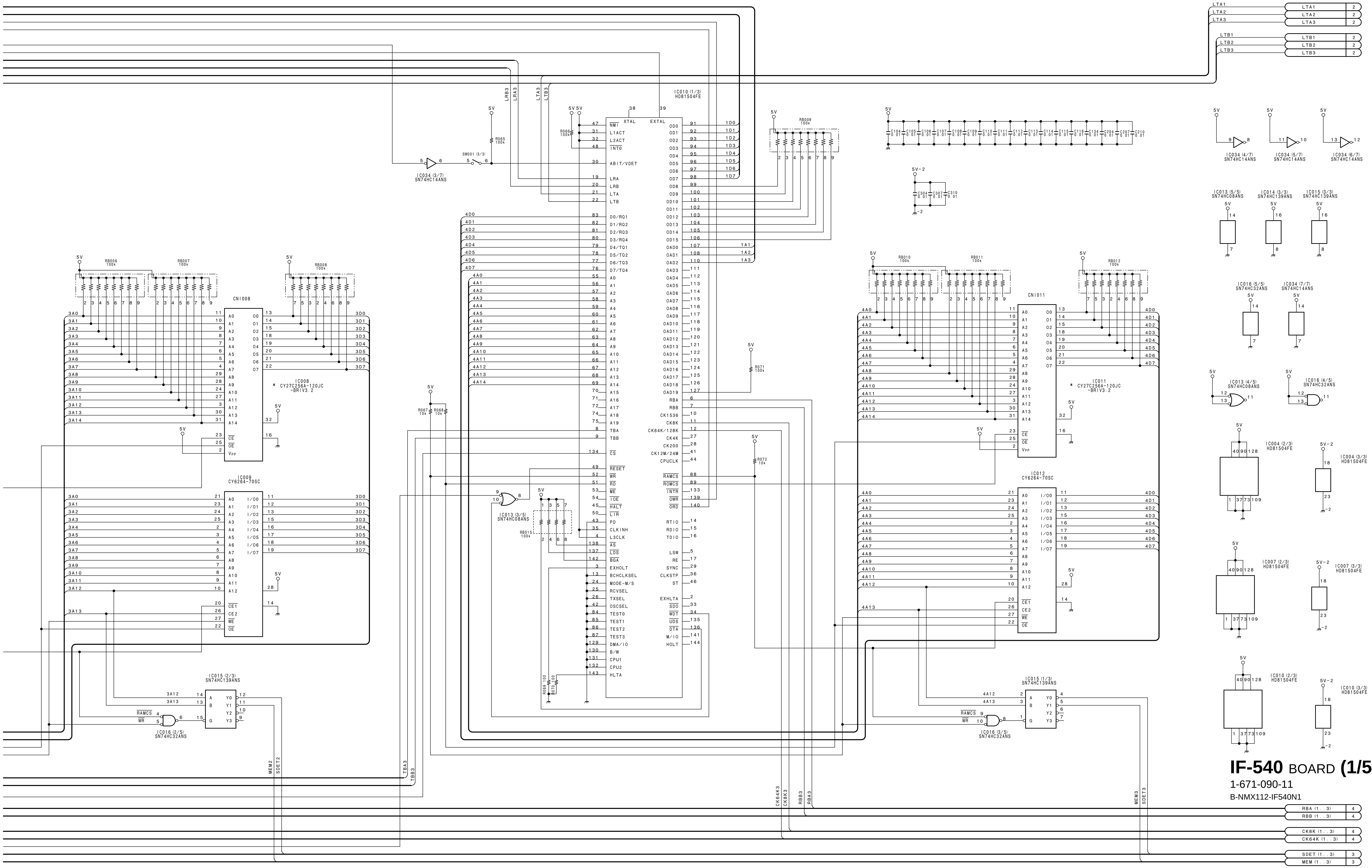
SUFFIX: -11

## IF-540 (1/5); ISDN INTERFACE

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |


1
2
3
4
5
A
B
C
D
E
F
G
H
1A (1..5)
1D (0..7)
1WR
1RD
VDET2
VDET3
1CLK
LRA1
LRA2
LRA3
LRB1
LRB2
LRB3
VDET1
LAPDCS1
LAPDCS2
TBA (1..3)
TBB (1..3)
LAPDCS3
ORST
IC004 (1/3) HD81504FE
IC007 (1/3) HD81504FE
IC034 (1/7) SN74HC14ANS
IC034 (2/7) SN74HC14ANS
SW001 (1/3)
SW001 (2/3)
IC013 (1/5) SN74HC08ANS
IC013 (2/5) SN74HC08ANS
IC005 CY27C256A-120JC -BRIV3.2
IC006 CY6264-70SC
CN1005
IC014 (1/3) SN74HC139ANS
IC016 (1/5) SN74HC32ANS
RB001 100k
RB002 100k
RB003 100k
RB004 100k
RB005 100k
RB013 100k
RB014 100k
R049 100k
R050 100k
R051 10k
R052 10k
R053 100
R054 100
R055 100k
R056 10k
R057 100k
R058 100k
R059 10k
R060 10k
R061 100
R062 100
R063 100k
R064 10k
5V
XTAL
EXTAL
NMI
L1ACT
L2ACT
INT0
ABIT/VDET
LRA
LRB
LTA
LTB
D0/RQ1
D1/RQ2
D2/RQ3
D3/RQ4
D4/TQ1
D5/TQ2
D6/TQ3
D7/TQ4
A0
A1
A2
A3
A4
A5
A6
A7
A8
A9
A10
A11
A12
A13
A14
A15
A16
A17
A18
A19
TBA
TBB
CS
RESET
WR
RD
ME
IOE
HALT
LIR
PD
CLKINH
L3CLK
AS
LDS
BGA
EXHOLT
BCHCLKSEL
MODE-M/S
RCVSEL
TXSEL
OSCSEL
TEST0
TEST1
TEST2
TEST3
DMA/IO
B/W
CPU1
CPU2
HLTA
OD0
OD1
OD2
OD3
OD4
OD5
OD6
OD7
OD8
OD9
OD10
OD11
OD12
OD13
OD14
OD15
OAD0
OAD1
OAD2
OAD3
OAD4
OAD5
OAD6
OAD7
OAD8
OAD9
OAD10
OAD11
OAD12
OAD13
OAD14
OAD15
OAD16
OAD17
OAD18
OAD19
RBA
RBB
CK1536
CK8K
CK64K/128K
CK4K
CK200
CK12M/24M
CPUCLK
RAMCS
ROMCS
INTR
OWR
ORD
RTIO
RDIO
TDIO
LSW
RE
SYNC
CLKSTP
ST
EXHLTA
SDO
WDT
UDS
DTA
M/IO
HOLT
2D0
2D1
2D2
2D3
2D4
2D5
2D6
2D7
2A0
2A1
2A2
2A3
2A4
2A5
2A6
2A7
2A8
2A9
2A10
2A11
2A12
2A13
2A14
3D0
3D1
3D2
3D3
3D4
3D5
3D6
3D7
3A0
3A1
3A2
3A3
3A4
3A5
3A6
3A7
3A8
3A9
3A10
3A11
3A12
3A13
3A14
1A1
1A2
1A3
O0
O1
O2
O3
O4
O5
O6
O7
CE
OE
VPP
I/O0
I/O1
I/O2
I/O3
I/O4
I/O5
I/O6
I/O7
CE1
CE2
WE
Y0
Y1
Y2
Y3
G
LRB1
LRA1
LTA1
LTB1
LRB2
LRA2
LTA2
LTB2
TBA1
TBB1
TBA2
TBB2
CK64K1
CK8K1
RBB1
RBA1
CK64K2
CK8K2
RBB2
RBA2
MEM1
SDET1
RAMCS
WR
*

6-74 (a) (PCS-P500/P500P SERVICE MANUAL Volume 2)


IC010 (1/3) HD81504FE
IC008 CY27C256A-120JC -BRIV3.2
IC009 CY6264-70SC
IC011 CY27C256A-120JC -BRIV3.2
IC012 CY6264-70SC
IC015 (2/3) SN74HC139ANS
IC015 (1/3) SN74HC139ANS
IC016 (2/5) SN74HC32ANS
IC016 (3/5) SN74HC32ANS
IC013 (3/5) SN74HC08ANS
IC034 (3/7) SN74HC14ANS
IC034 (4/7) SN74HC14ANS
IC034 (5/7) SN74HC14ANS
IC034 (6/7) SN74HC14ANS
IC034 (7/7) SN74HC14ANS
IC013 (4/5) SN74HC08ANS
IC013 (5/5) SN74HC08ANS
IC014 (3/3) SN74HC139ANS
IC015 (3/3) SN74HC139ANS
IC016 (4/5) SN74HC32ANS
IC016 (5/5) SN74HC32ANS
IC004 (2/3) HD81504FE
IC004 (3/3) HD81504FE
IC007 (2/3) HD81504FE
IC007 (3/3) HD81504FE
IC010 (2/3) HD81504FE
IC010 (3/3) HD81504FE
CN1008
CN1011
RB006 100k
RB007 100k
RB008 100k
RB009 100k
RB010 100k
RB011 100k
RB012 100k
RB015 100k
SW001 (3/3)
5V
5V-2
LTA1
LTA2
LTA3
LTB1
LTB2
LTB3
RBA (1..3)
RBB (1..3)
CK8K (1..3)
CK64K (1..3)
SDET (1..3)
MEM (1..3)
1
2
3
4
5
I
J
K
L
M
N
O
P

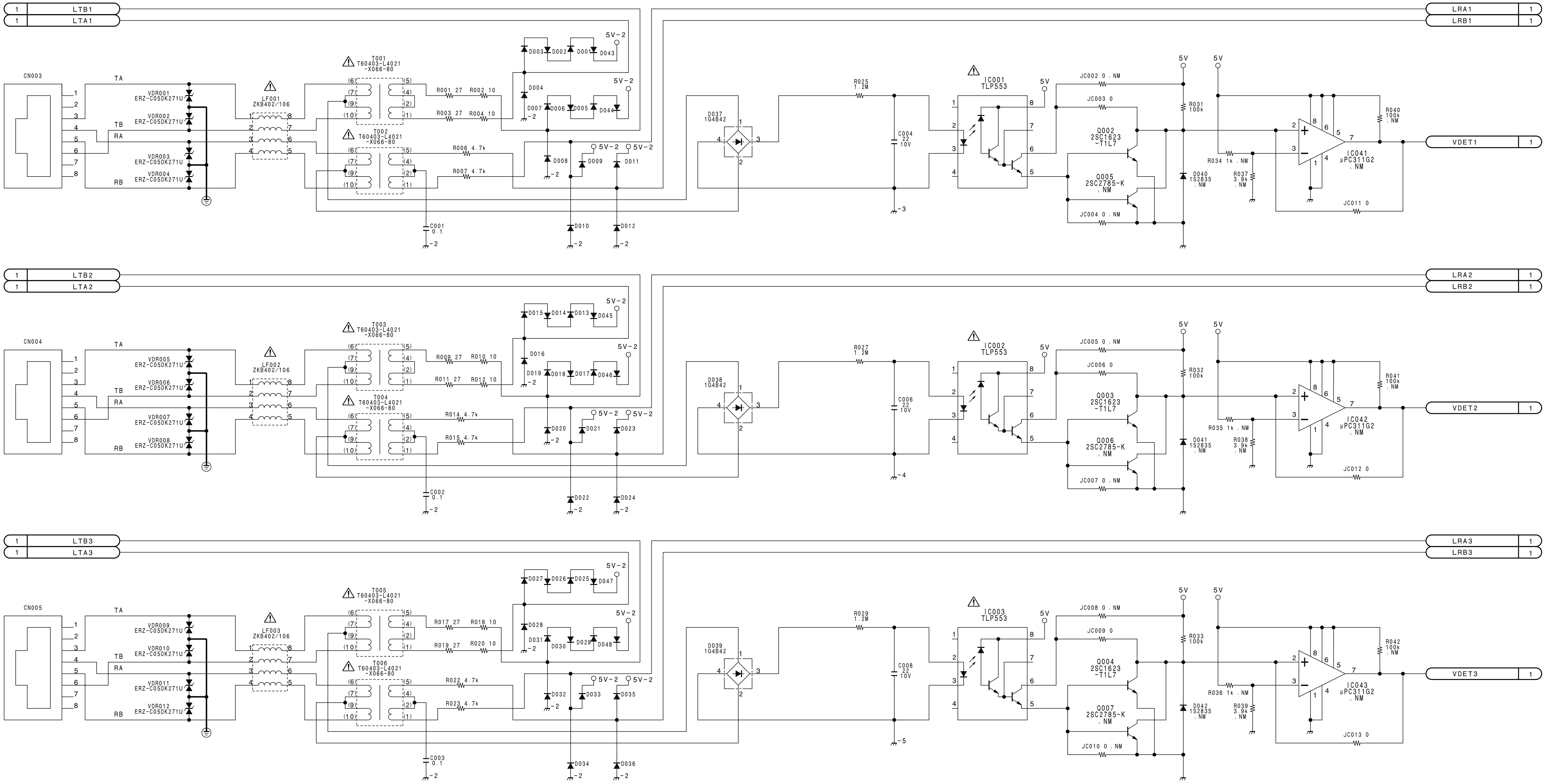
## IF-540 BOARD (1/5)

1-671-090-11

B-NMX112-IF540N1

## IF-540 (2/5); ISDN INTERFACE

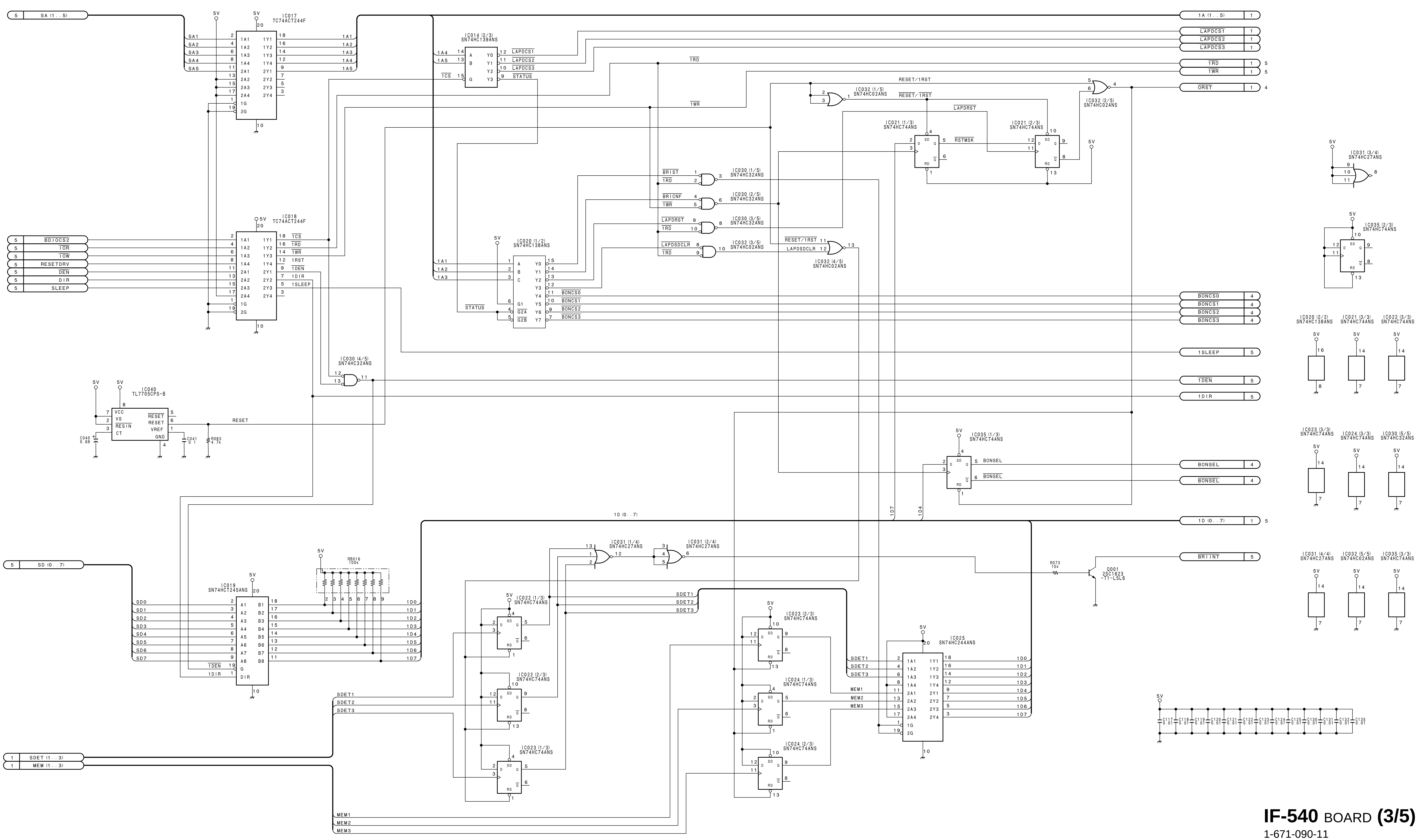
| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |


LTB1
LTA1
LRA1
LRB1
CN003
TA
TB
RA
RB
VDR001 ERZ-C05DK271U
VDR002 ERZ-C05DK271U
VDR003 ERZ-C05DK271U
VDR004 ERZ-C05DK271U
LF001 ZKB402/106
T001 T60403-L4021 -X066-80
T002 T60403-L4021 -X066-80
R001 27
R002 10
R003 27
R004 10
R006 4.7k
R007 4.7k
C001 0.1
D001
D002
D003
D004
D005
D006
D007
D008
D009
D010
D011
D012
D043
D044
5V-2
D037 1G4B42
R025 1.2M
C004 22 10V
IC001 TLP553
5V
JC002 0.NM
JC003 0
Q002 2SC1623 -T1L7
Q005 2SC2785-K .NM
JC004 0.NM
R031 100k
D040 1S2835 .NM
R034 1k.NM
R037 3.9k .NM
IC041 μPC311G2 .NM
R040 100k .NM
JC011 0
VDET1
LTB2
LTA2
LRA2
LRB2
CN004
VDR005
VDR006
VDR007
VDR008
LF002 ZKB402/106
T003 T60403-L4021 -X066-80
T004 T60403-L4021 -X066-80
R009 27
R010 10
R011 27
R012 10
R014 4.7k
R015 4.7k
C002 0.1
D013
D014
D015
D016
D017
D018
D019
D020
D021
D022
D023
D024
D045
D046
D038 1G4B42
R027 1.2M
C006 22 10V
IC002 TLP553
JC005 0.NM
JC006 0
Q003 2SC1623 -T1L7
Q006 2SC2785-K .NM
JC007 0.NM
R032 100k
D041 1S2835 .NM
R035 1k.NM
R038 3.9k .NM
IC042 μPC311G2 .NM
R041 100k .NM
JC012 0
VDET2
LTB3
LTA3
LRA3
LRB3
CN005
VDR009
VDR010
VDR011
VDR012
LF003 ZKB402/106
T005 T60403-L4021 -X066-80
T006 T60403-L4021 -X066-80
R017 27
R018 10
R019 27
R020 10
R022 4.7k
R023 4.7k
C003 0.1
D025
D026
D027
D028
D029
D030
D031
D032
D033
D034
D035
D036
D047
D048
D039 1G4B42
R029 1.2M
C008 22 10V
IC003 TLP553
JC008 0.NM
JC009 0
Q004 2SC1623 -T1L7
Q007 2SC2785-K .NM
JC010 0.NM
R033 100k
D042 1S2835 .NM
R036 1k.NM
R039 3.9k .NM
IC043 μPC311G2 .NM
R042 100k .NM
JC013 0
VDET3
-2
-3
-4
-5

**IF-540** BOARD **(2/5)**
1-671-090-11
B-NMX112-IF540N1

## IF-540 (3/5); ISDN INTERFACE

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |


SA (1 . . 5)
IC017 TC74ACT244F
IC018 TC74ACT244F
IC014 (2/3) SN74HC139ANS
IC020 (1/2) SN74HC138ANS
IC030 (1/5) SN74HC32ANS
IC030 (2/5) SN74HC32ANS
IC030 (3/5) SN74HC32ANS
IC030 (4/5) SN74HC32ANS
IC032 (1/5) SN74HC02ANS
IC032 (2/5) SN74HC02ANS
IC032 (3/5) SN74HC02ANS
IC032 (4/5) SN74HC02ANS
IC021 (1/3) SN74HC74ANS
IC021 (2/3) SN74HC74ANS
IC031 (3/4) SN74HC27ANS
IC035 (2/3) SN74HC74ANS
IC035 (1/3) SN74HC74ANS
IC040 TL7705CPS-B
IC019 SN74HCT245ANS
RB016 100k
IC022 (1/3) SN74HC74ANS
IC022 (2/3) SN74HC74ANS
IC023 (1/3) SN74HC74ANS
IC023 (2/3) SN74HC74ANS
IC024 (1/3) SN74HC74ANS
IC024 (2/3) SN74HC74ANS
IC031 (1/4) SN74HC27ANS
IC031 (2/4) SN74HC27ANS
IC025 SN74HC244ANS
Q001 2SC1623 -T1-L5L6
R073 10k
C040 0.68
C041 0.1
R083 4.7k
BDTOCS2
TOR
TOW
RESETDRV
DEN
DIR
SLEEP
SD (0 . . 7)
SDET (1 . . 3)
MEM (1 . . 3)
1A (1 . . 5)
LAPDCS1
LAPDCS2
LAPDCS3
1TRD
1TWR
ORST
BONCS0
BONCS1
BONCS2
BONCS3
1SLEEP
1DEN
1DIR
BONSEL
1D (0 . . 7)
BRIINT
RESET/1RST
LAPDRST
RSTMSK
BRIST
BRICNF
LAPDSDCLR
STATUS
RESET
IC020 (2/2) SN74HC138ANS
IC021 (3/3) SN74HC74ANS
IC022 (3/3) SN74HC74ANS
IC023 (3/3) SN74HC74ANS
IC024 (3/3) SN74HC74ANS
IC030 (5/5) SN74HC32ANS
IC031 (4/4) SN74HC27ANS
IC032 (5/5) SN74HC02ANS
IC035 (3/3) SN74HC74ANS
C117 C118 C119 C120 C121 C122 C123 C124 C125 C130 C131 C132 C135 0.01
1
2
3
4
5
A
B
C
D
E
F
G
H

**IF-540** BOARD **(3/5)**
1-671-090-11
B-NMX112-IF540N1

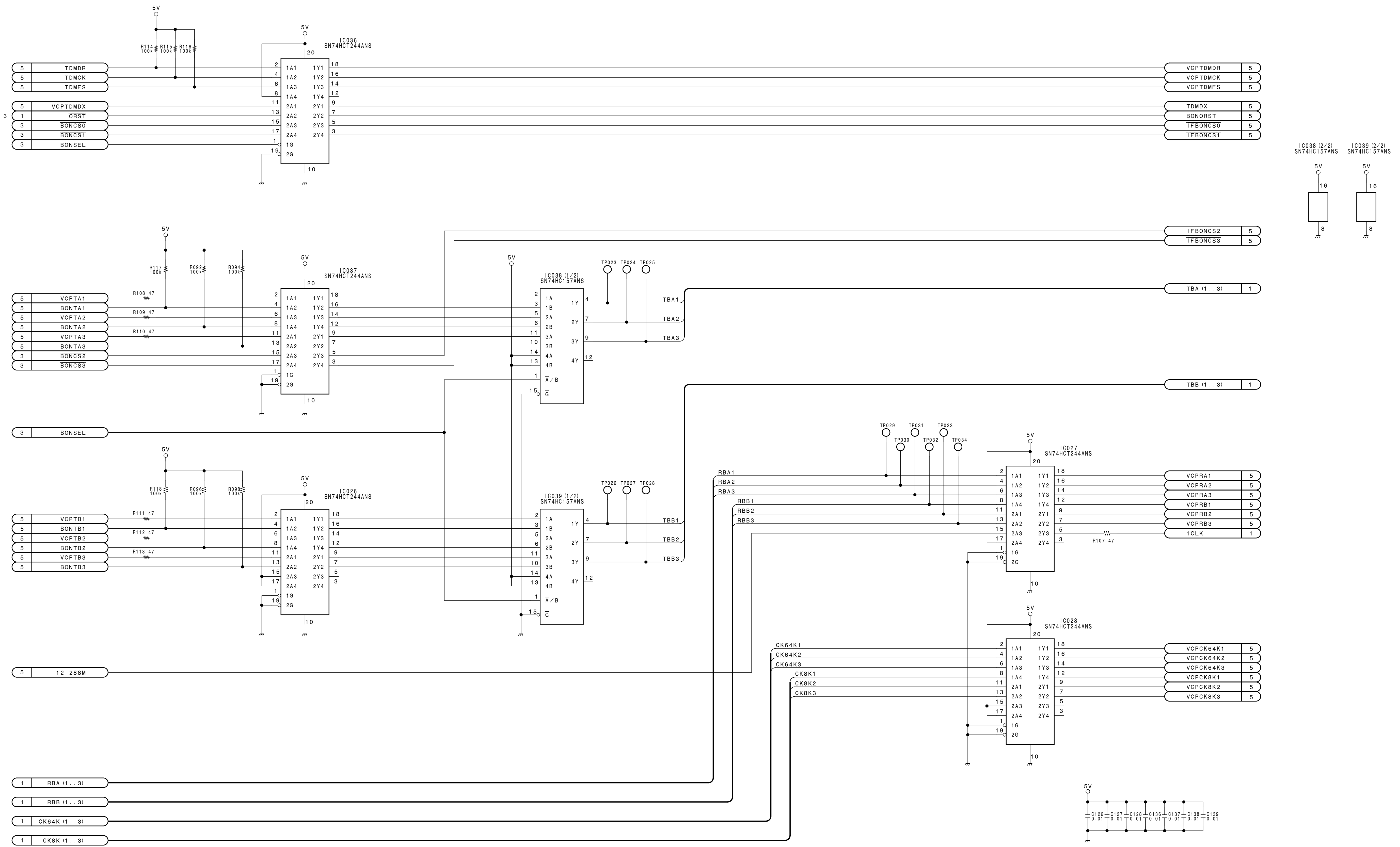
6-77 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

IF-540 (4/5)

66 (PCS-5100/5100P·J, E)

## IF-540 (4/5); ISDN INTERFACE

PCS-P500 (J) ; S/N 63001 and higher
PCS-P500 (UC) ; S/N 23001 and higher

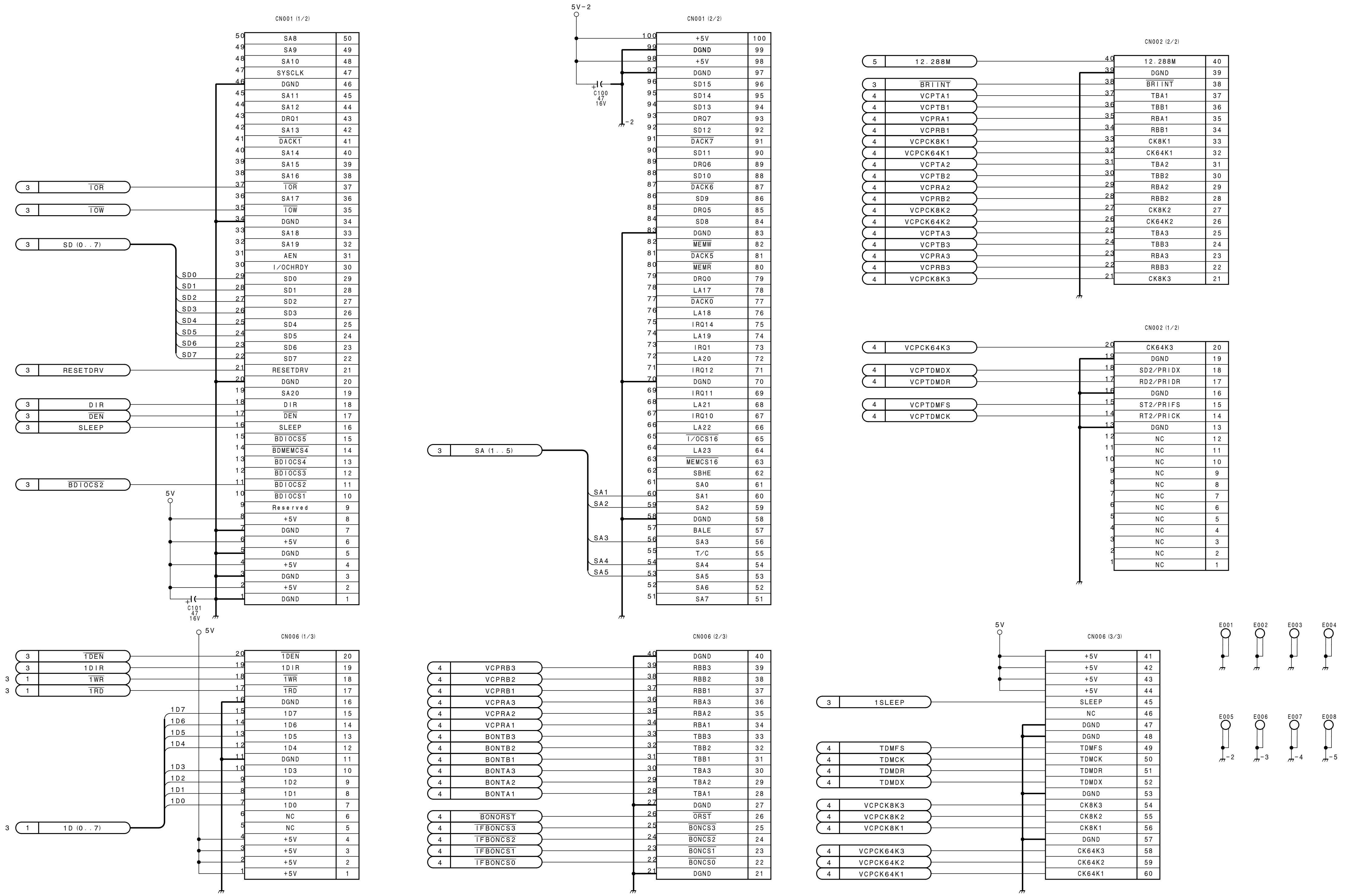

IC036 SN74HCT244ANS
IC037 SN74HCT244ANS
IC026 SN74HCT244ANS
IC038 (1/2) SN74HC157ANS
IC039 (1/2) SN74HC157ANS
IC038 (2/2) SN74HC157ANS
IC039 (2/2) SN74HC157ANS
IC027 SN74HCT244ANS
IC028 SN74HCT244ANS
5V
R114 100k
R115 100k
R116 100k
R117 100k
R092 100k
R094 100k
R118 100k
R096 100k
R098 100k
R108 47
R109 47
R110 47
R111 47
R112 47
R113 47
R107 47
TDMDR
TDMCK
TDMFS
VCPTDMDX
ORST
BONCS0
BONCS1
BONSEL
VCPTDMDR
VCPTDMCK
VCPTDMFS
TDMDX
BONORST
IFBONCS0
IFBONCS1
IFBONCS2
IFBONCS3
VCPTA1
BONTA1
VCPTA2
BONTA2
VCPTA3
BONTA3
BONCS2
BONCS3
VCPTB1
BONTB1
VCPTB2
BONTB2
VCPTB3
BONTB3
12.288M
TBA1
TBA2
TBA3
TBA (1..3)
TBB1
TBB2
TBB3
TBB (1..3)
TP023 TP024 TP025
TP026 TP027 TP028
TP029 TP030 TP031 TP032 TP033 TP034
RBA1
RBA2
RBA3
RBB1
RBB2
RBB3
VCPRA1
VCPRA2
VCPRA3
VCPRB1
VCPRB2
VCPRB3
1CLK
CK64K1
CK64K2
CK64K3
CK8K1
CK8K2
CK8K3
VCPCK64K1
VCPCK64K2
VCPCK64K3
VCPCK8K1
VCPCK8K2
VCPCK8K3
RBA (1..3)
RBB (1..3)
CK64K (1..3)
CK8K (1..3)
C126 0.01
C127 0.01
C128 0.01
C136 0.01
C137 0.01
C138 0.01
C139 0.01

**IF-540** BOARD **(4/5)**
1-671-090-11
B-NMX112-IF540N1

6-78 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-540 (5/5); ISDN INTERFACE

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |

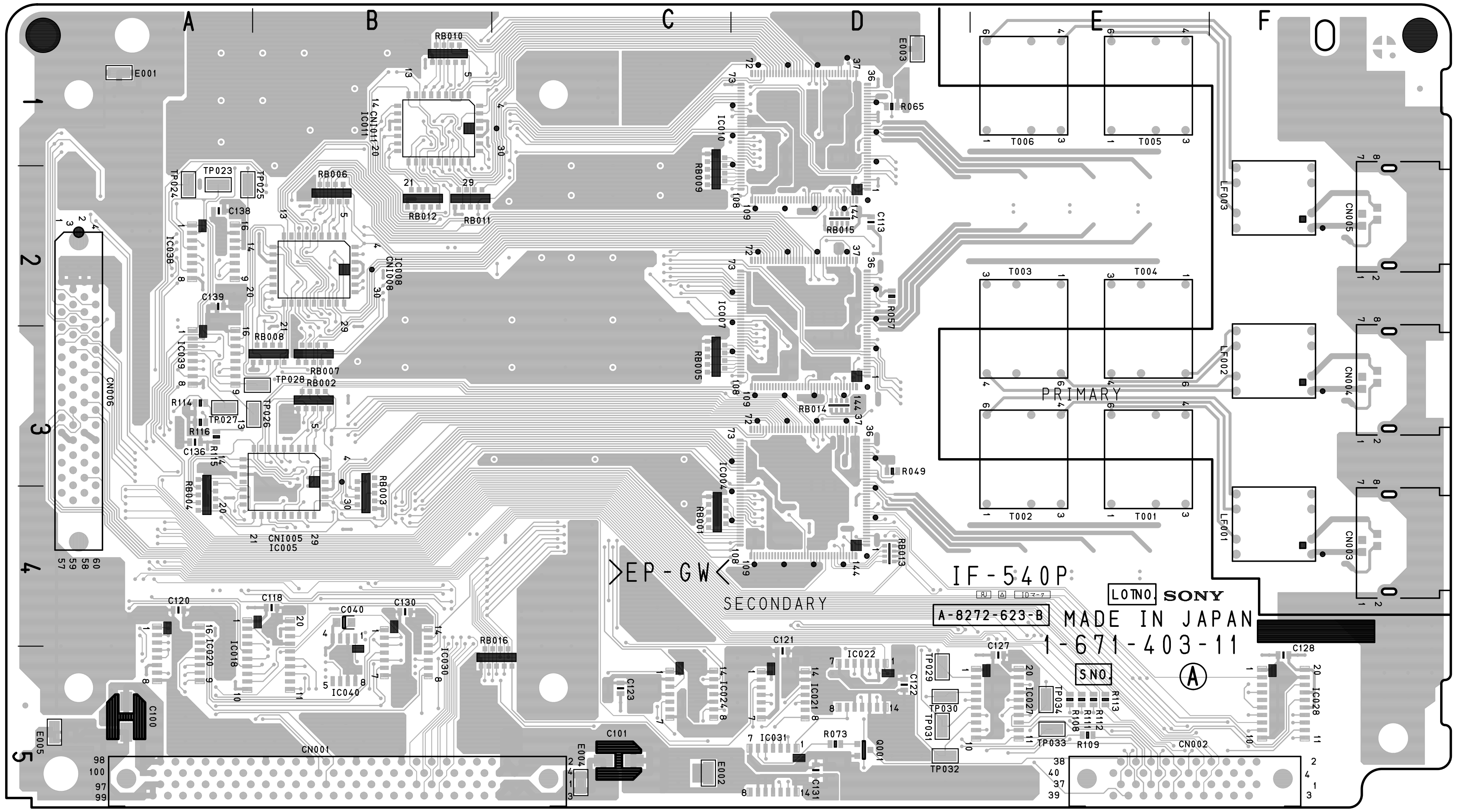

CN001 (1/2)
CN001 (2/2)
CN002 (2/2)
CN002 (1/2)
CN006 (1/3)
CN006 (2/3)
CN006 (3/3)
5V-2
5V
C100 47 16V
C101 47 16V
SA (1..5)
SD (0..7)
1D (0..7)
12.288M
RESETDRV
BDIOCS2
1SLEEP
E001
E002
E003
E004
E005
E006
E007
E008

## IF-540 BOARD (5/5)

1-671-090-11

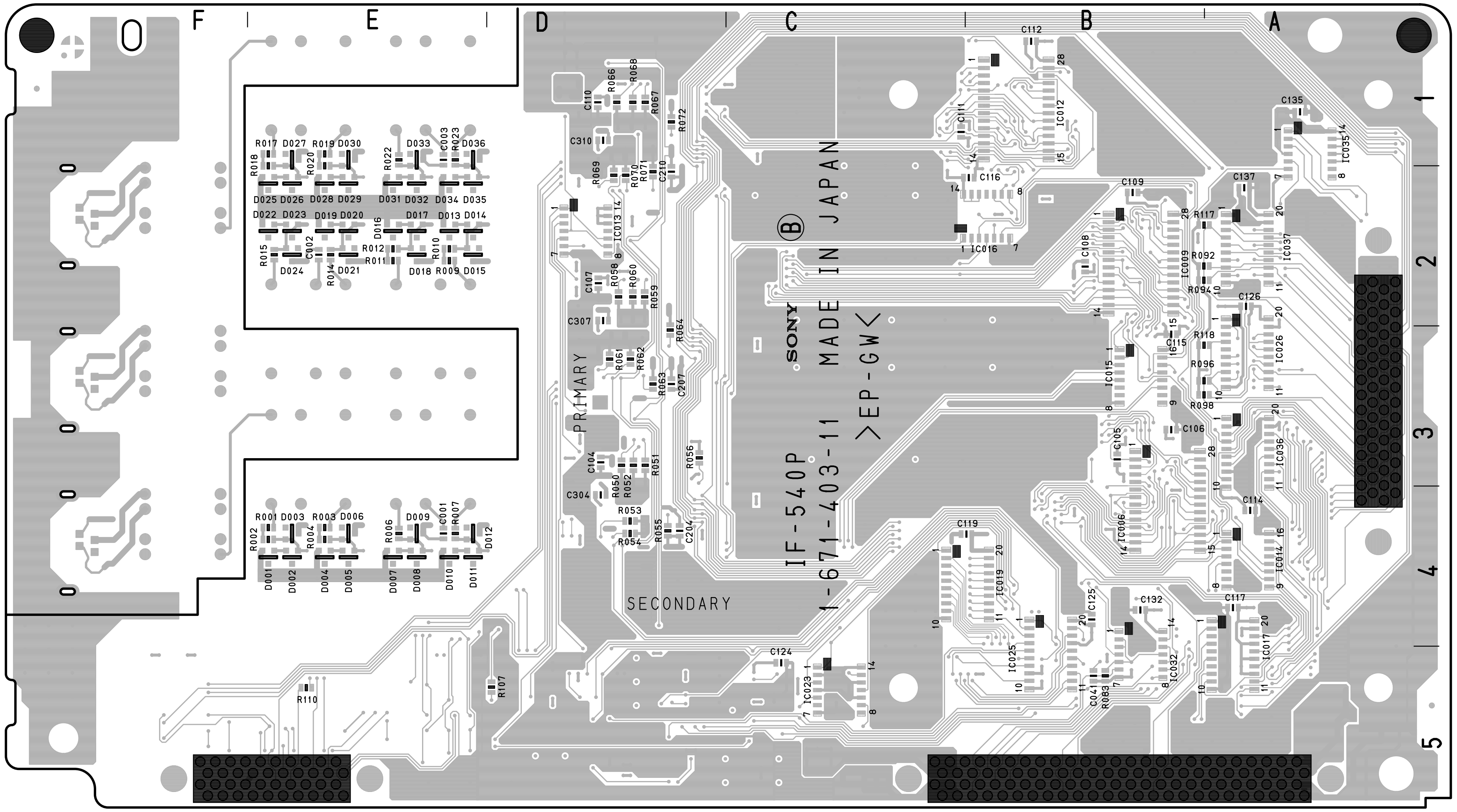
B-NMX112-IF540N1

PCS-P500P (CE) : SN 53001 and higher


A
B
C
D
E
F
1
2
3
4
5
E001
E002
E003
E004
E005
TP023
TP024
TP025
TP026
TP027
TP028
TP029
TP030
TP031
TP032
TP033
TP034
RB001
RB002
RB003
RB004
RB005
RB006
RB007
RB008
RB009
RB010
RB011
RB012
RB013
RB014
RB015
RB016
R049
R057
R065
R073
R108
R109
R111
R112
R113
R114
R115
R116
C100
C101
C113
C118
C120
C121
C122
C123
C127
C128
C130
C131
C136
C138
C139
C040
IC001
IC004
IC005
IC007
IC008
IC010
IC018
IC020
IC021
IC022
IC024
IC027
IC028
IC030
IC031
IC036
IC039
IC040
CN001
CN002
CN003
CN004
CN005
CN006
CN1001
CN1005
CN1008
Q001
T001
T002
T003
T004
T005
T006
LF001
LF002
LF003
PRIMARY
SECONDARY
>EP-GW<
IF-540P
A-8272-623-B
MADE IN JAPAN
1-671-403-11
LOT NO.
SONY
S NO.
A

## IF-540P -A SIDE-

SUFFIX: -11

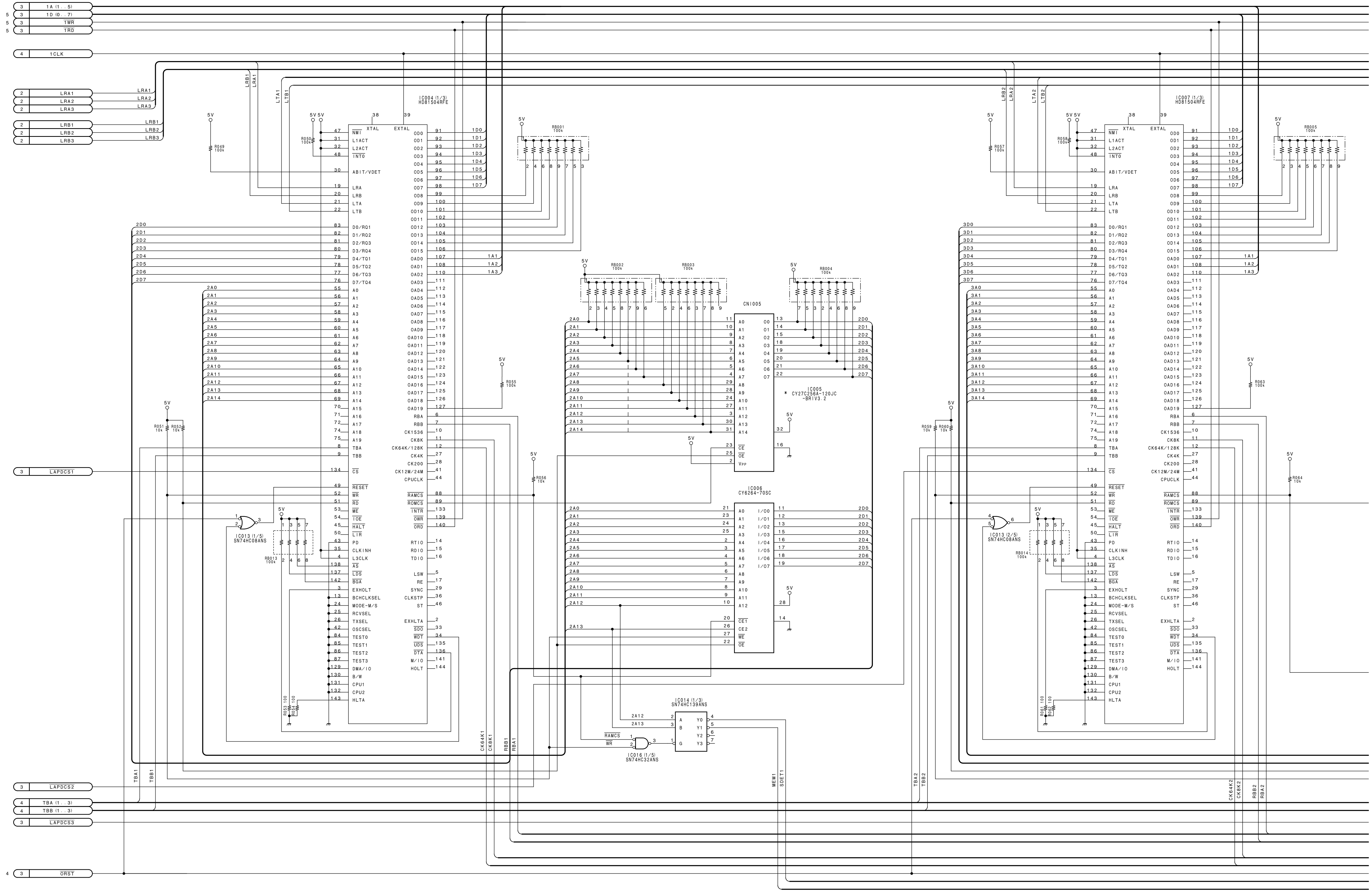

F
E
D
C
B
A
1
2
3
4
5
SONY
MADE IN JAPAN
B
IF-540P
1-671-403-11
>EP-GW<
PRIMARY
SECONDARY
IC012
IC016
IC035
IC009
IC037
IC015
IC026
IC006
IC036
IC014
IC019
IC025
IC032
IC017
IC023
IC013
C112
C135
C111
C116
C109
C137
C108
C126
C115
C106
C105
C114
C119
C125
C132
C117
C124
C041
R117
R092
R094
R118
R096
R098
R083
R110
R107
C110
C310
C107
C307
C104
C304
C210
C207
C204
R066
R068
R067
R072
R069
R070
R071
R058
R060
R059
R064
R061
R062
R063
R050
R052
R051
R056
R053
R054
R055
R017
D027
R019
D030
D033
C003
R023
D036
R018
R020
R022
D025
D026
D028
D029
D031
D032
D034
D035
D022
D023
D019
D020
D017
D013
D014
R015
C002
R014
D024
D021
R012
R011
D016
R010
D018
R009
D015
R001
D003
R003
D006
D009
C001
R007
R002
R004
R006
D012
D001
D002
D004
D005
D007
D008
D010
D011

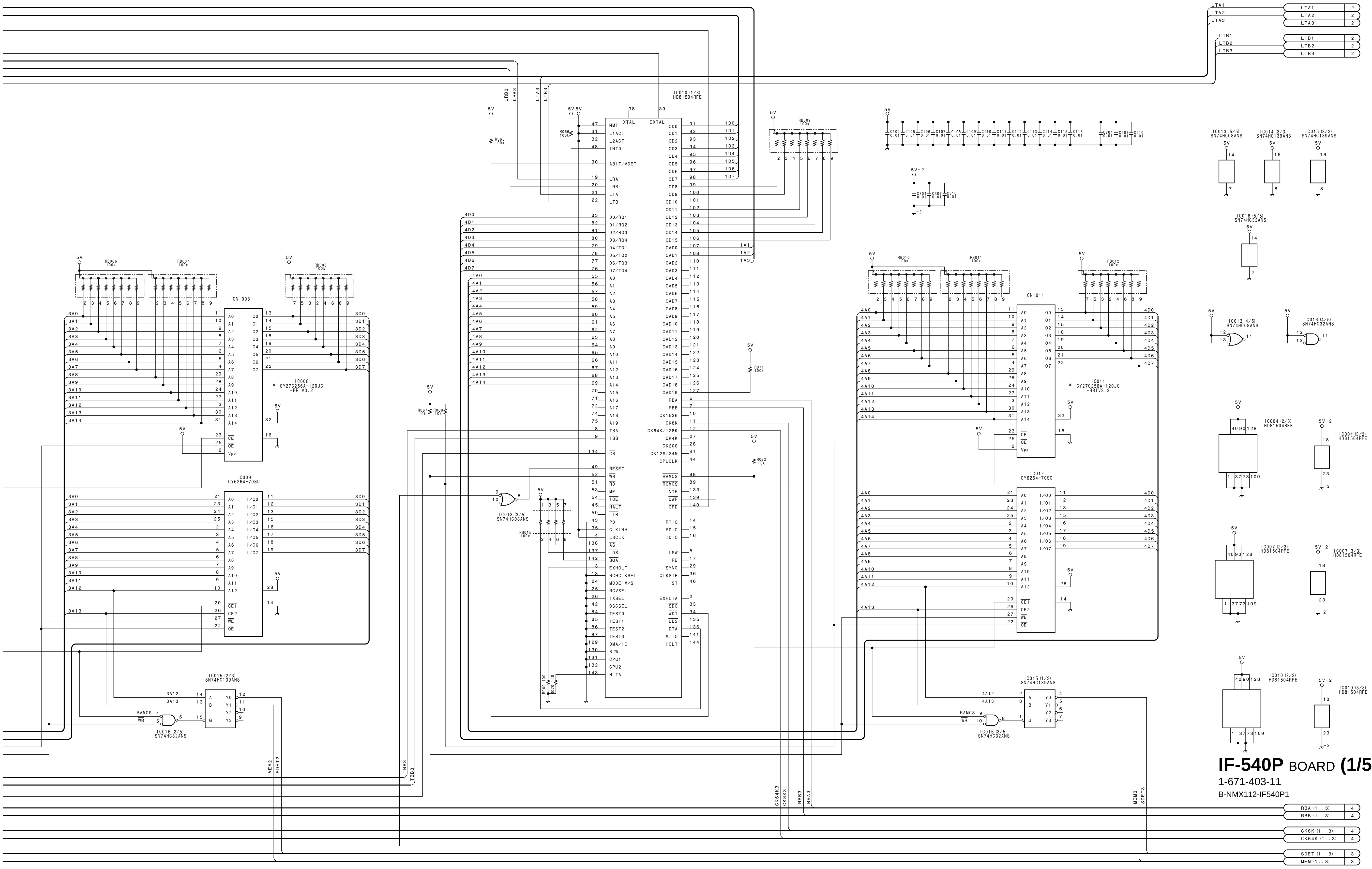
**IF-540P** **-B SIDE-**

SUFFIX: -11

## IF-540P (1/5); ISDN INTERFACE

PCS-P500P (CE) ; S/N 53001 and higher

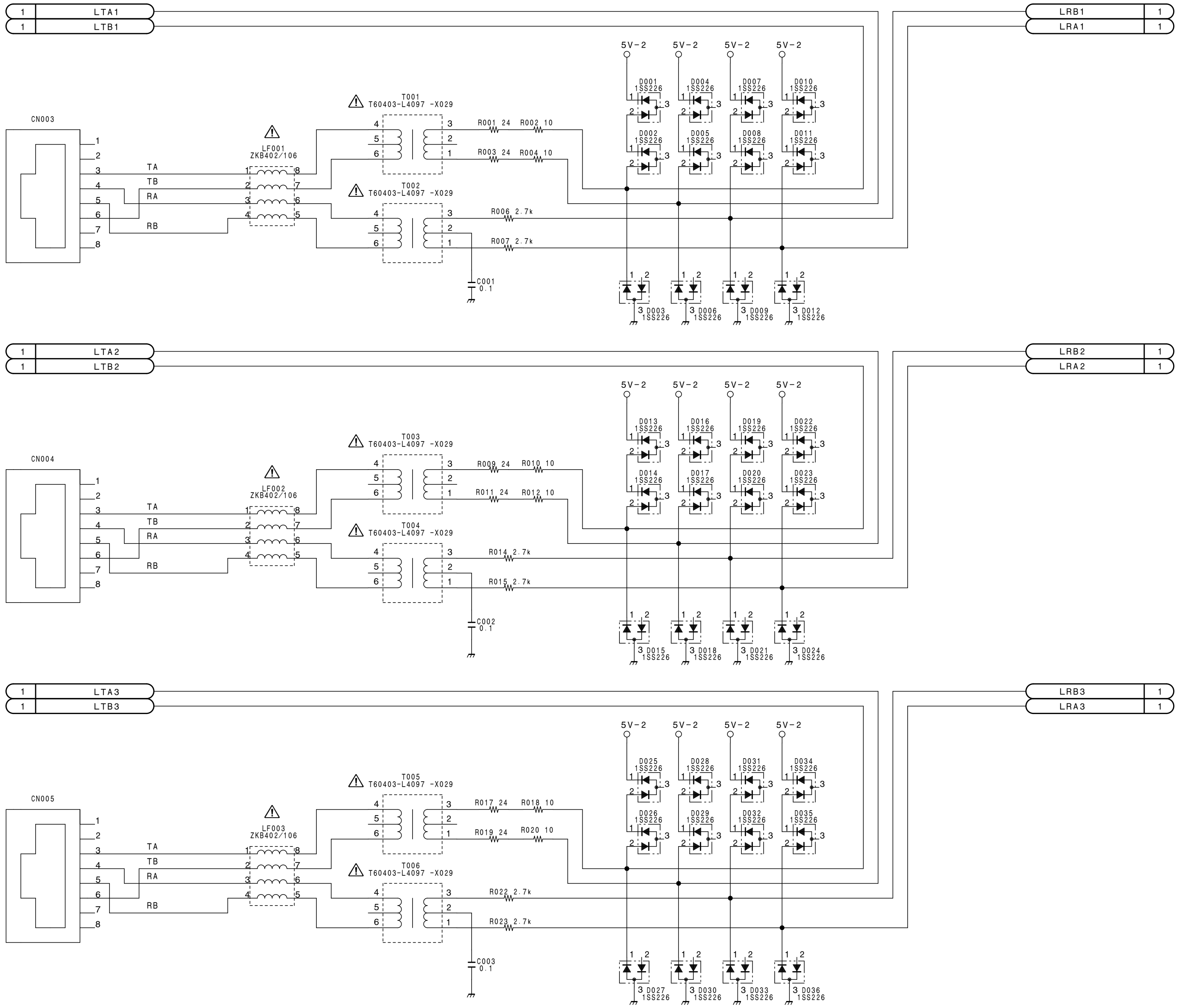

1A (1..5)
1D (0..7)
1WR
1RD
1CLK
LRA1
LRA2
LRA3
LRB1
LRB2
LRB3
LAPDCS1
LAPDCS2
TBA (1..3)
TBB (1..3)
LAPDCS3
ORST
IC004 (1/3)
HD81504RFE
IC007 (1/3)
HD81504RFE
RB001 100k
RB002 100k
RB003 100k
RB004 100k
RB005 100k
RB013 100k
RB014 100k
CN1005
IC005
CY27C256A-120JC
-BRIV3.2
IC006
CY6264-70SC
IC013 (1/5)
SN74HC08ANS
IC013 (2/5)
SN74HC08ANS
IC014 (1/3)
SN74HC139ANS
IC016 (1/5)
SN74HC32ANS
R049 100k
R050 100k
R051 10k
R052 10k
R055 100k
R056 10k
R057 100k
R058 100k
R059 10k
R060 10k
R063 100k
R064 10k
5V
XTAL
EXTAL
NMI
L1ACT
L2ACT
INT0
ABIT/VDET
LRA
LRB
LTA
LTB
RESET
WR
RD
ME
IOE
HALT
LIR
PD
CLKINH
L3CLK
AS
LDS
BGA
EXHOLT
BCHCLKSEL
MODE-M/S
RCVSEL
TXSEL
OSCSEL
TEST0
TEST1
TEST2
TEST3
DMA/IO
B/W
CPU1
CPU2
HLTA
RAMCS
ROMCS
INTR
OWR
ORD
RTIO
RDIO
TDIO
LSW
RE
SYNC
CLKSTP
ST
EXHLTA
SDO
WDT
UDS
DTA
M/IO
HOLT
RBA
RBB
CK1536
CK8K
CK64K/128K
CK4K
CK200
CK12M/24M
CPUCLK
TBA1
TBB1
TBA2
TBB2
CK64K1
CK8K1
RBB1
RBA1
CK64K2
CK8K2
RBB2
RBA2
MEM1
SDET1
LTA1
LTB1
LTA2
LTB2
LRB1
LRA1
LRB2
LRA2
1
2
3
4
5
A
B
C
D
E
F
G
H


LTA1
LTA2
LTA3
LTB1
LTB2
LTB3
LRB3
LRA3
LTA3
LTB3
IC010 (1/3)
HD81504RFE
XTAL
EXTAL
NMI
L1ACT
L2ACT
INT0
ABIT/VDET
LRA
LRB
LTA
LTB
TBA
TBB
CS
RESET
WR
RD
ME
IOE
HALT
LIR
PD
CLKINH
L3CLK
AS
LDS
BGA
EXHOLT
BCHCLKSEL
MODE-M/S
RCVSEL
TXSEL
OSCSEL
TEST0
TEST1
TEST2
TEST3
DMA/IO
B/W
CPU1
CPU2
HLTA
RBA
RBB
CK1536
CK8K
CK64K/128K
CK4K
CK200
CK12M/24M
CPUCLK
RAMCS
ROMCS
INTR
OWR
ORD
RTIO
RDIO
TDIO
LSW
RE
SYNC
CLKSTP
ST
EXHLTA
SDO
WDT
UDS
DTA
M/IO
HOLT
CN1008
IC008
CY27C256A-120JC
-BRIV3.2
IC009
CY6264-70SC
IC015 (2/3)
SN74HC139ANS
IC016 (2/5)
SN74HC32ANS
IC013 (3/5)
SN74HC08ANS
CN1011
IC011
CY27C256A-120JC
-BRIV3.2
IC012
CY6264-70SC
IC015 (1/3)
SN74HC139ANS
IC016 (3/5)
SN74HC32ANS
IC013 (5/5)
SN74HC08ANS
IC014 (3/3)
SN74HC139ANS
IC015 (3/3)
SN74HC139ANS
IC016 (5/5)
SN74HC32ANS
IC013 (4/5)
SN74HC08ANS
IC016 (4/5)
SN74HC32ANS
IC004 (2/3)
HD81504RFE
IC004 (3/3)
HD81504RFE
IC007 (2/3)
HD81504RFE
IC007 (3/3)
HD81504RFE
IC010 (2/3)
HD81504RFE
IC010 (3/3)
HD81504RFE
RB006 100k
RB007 100k
RB008 100k
RB009 100k
RB010 100k
RB011 100k
RB012 100k
RB015 100k
R065 100k
R066 100k
R067 10k
R068 10k
R069 100
R070 100
R071 100k
R072 10k
5V
5V-2
RAMCS
WR
MEM2
SDET2
TBA3
TBB3
CK64K3
CK8K3
RBB3
RBA3
MEM3
SDET3
RBA (1..3)
RBB (1..3)
CK8K (1..3)
CK64K (1..3)
SDET (1..3)
MEM (1..3)
1
2
3
4
5

**IF-540P** BOARD **(1/5)**
1-671-403-11
B-NMX112-IF540P1

## IF-540P (2/5); ISDN INTERFACE

PCS-P500P (CE) ; S/N 53001 and higher


LTA1
LTB1
LRB1
LRA1
LTA2
LTB2
LRB2
LRA2
LTA3
LTB3
LRB3
LRA3
CN003
CN004
CN005
TA
TB
RA
RB
LF001
LF002
LF003
ZKB402/106
T001
T002
T003
T004
T005
T006
T60403-L4097 -X029
R001 24
R002 10
R003 24
R004 10
R006 2.7k
R007 2.7k
R009 24
R010 10
R011 24
R012 10
R014 2.7k
R015 2.7k
R017 24
R018 10
R019 24
R020 10
R022 2.7k
R023 2.7k
C001 0.1
C002 0.1
C003 0.1
5V-2
1SS226
D001
D002
D003
D004
D005
D006
D007
D008
D009
D010
D011
D012
D013
D014
D015
D016
D017
D018
D019
D020
D021
D022
D023
D024
D025
D026
D027
D028
D029
D030
D031
D032
D033
D034
D035
D036

## IF-540P BOARD (2/5)

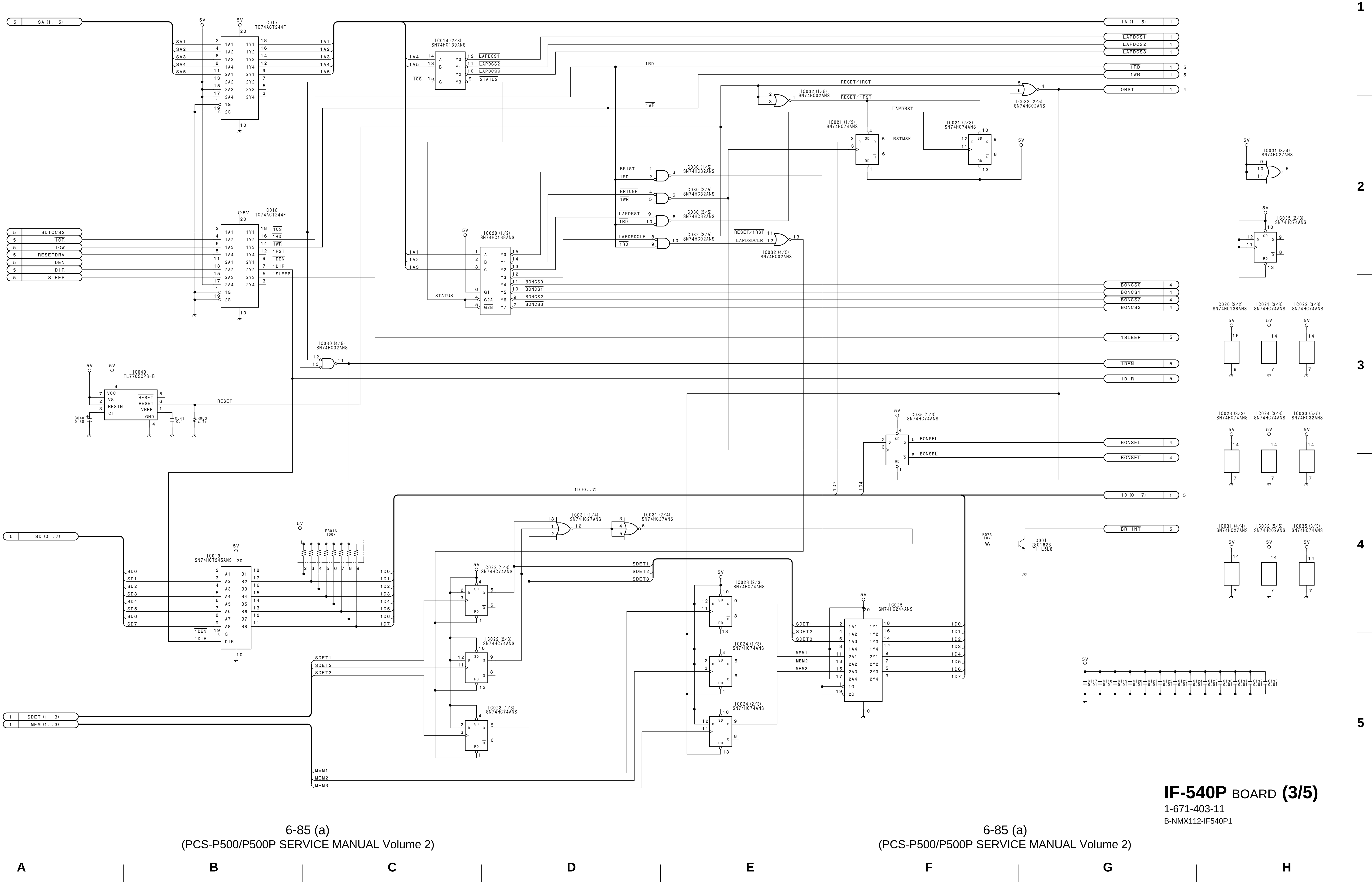
1-671-403-11

B-NMX112-IF540P1

6-84 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-540P (3/5); ISDN INTERFACE

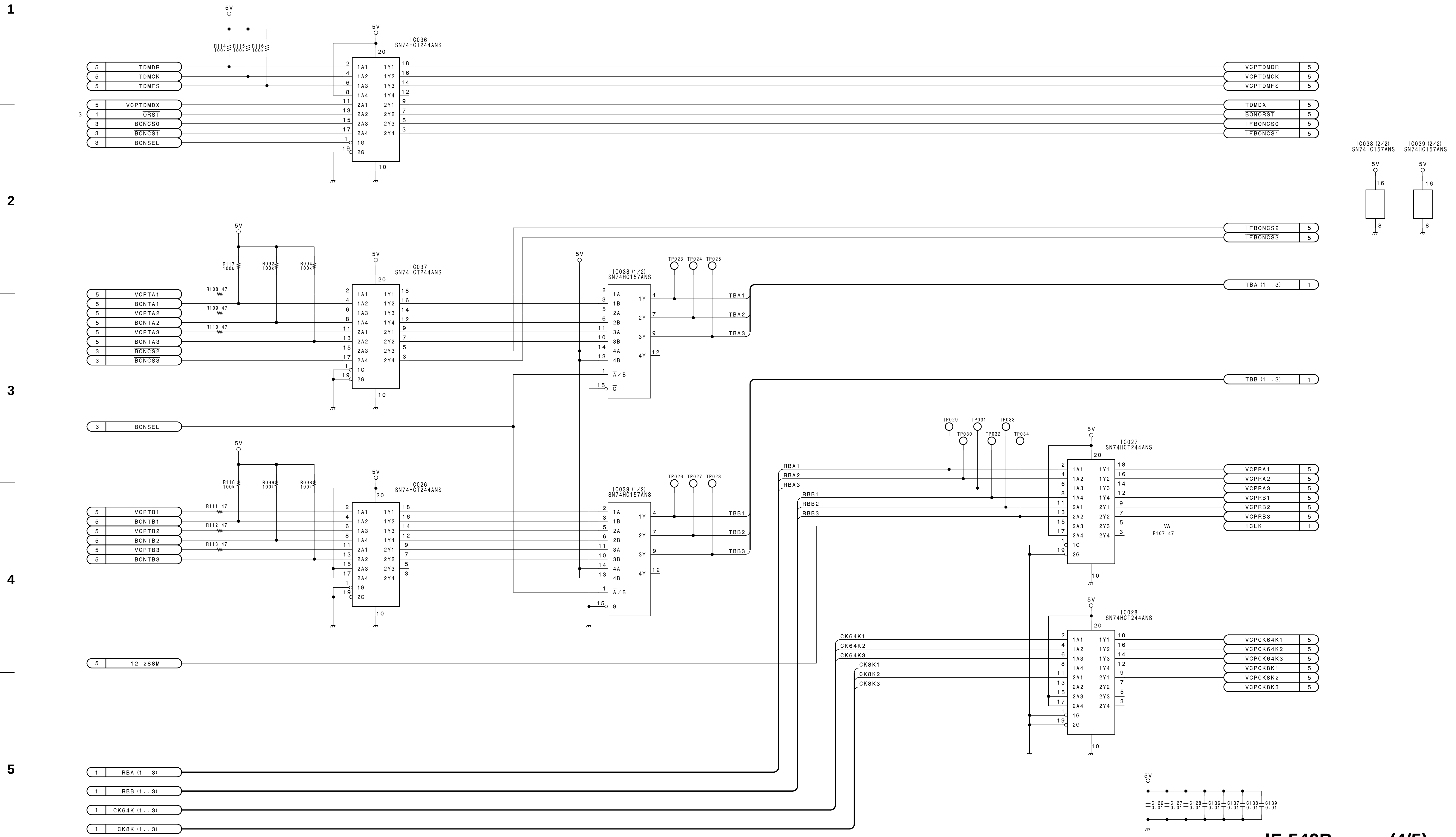
PCS-P500P (CE) ; S/N 53001 and higher


1
2
3
4
5
A
B
C
D
E
F
G
H
SA (1 . . 5)
SA1
SA2
SA3
SA4
SA5
IC017
TC74ACT244F
1A (1 . . 5)
IC014 (2/3)
SN74HC139ANS
LAPDCS1
LAPDCS2
LAPDCS3
STATUS
1CS
1RD
1WR
ORST
RESET/1RST
IC032 (1/5)
SN74HC02ANS
IC032 (2/5)
SN74HC02ANS
LAPDRST
IC021 (1/3)
SN74HC74ANS
IC021 (2/3)
SN74HC74ANS
RSTMSK
IC031 (3/4)
SN74HC27ANS
IC035 (2/3)
SN74HC74ANS
BRIST
BRICNF
LAPDSDCLR
IC030 (1/5)
SN74HC32ANS
IC030 (2/5)
SN74HC32ANS
IC030 (3/5)
SN74HC32ANS
IC032 (3/5)
SN74HC02ANS
IC032 (4/5)
SN74HC02ANS
IC018
TC74ACT244F
BDIOCS2
IOR
IOW
RESETDRV
DEN
DIR
SLEEP
1RST
1DEN
1DIR
1SLEEP
IC020 (1/2)
SN74HC138ANS
BONCS0
BONCS1
BONCS2
BONCS3
IC020 (2/2)
SN74HC138ANS
IC021 (3/3)
SN74HC74ANS
IC022 (3/3)
SN74HC74ANS
IC030 (4/5)
SN74HC32ANS
IC040
TL7705CPS-B
RESET
C040 0.68
C041 0.1
R083 4.7k
IC023 (3/3)
SN74HC74ANS
IC024 (3/3)
SN74HC74ANS
IC030 (5/5)
SN74HC32ANS
IC035 (1/3)
SN74HC74ANS
BONSEL
1D (0 . . 7)
1D7
1D4
IC031 (1/4)
SN74HC27ANS
IC031 (2/4)
SN74HC27ANS
BRIINT
R073 10k
Q001
2SC1623
-T1-L5L6
IC031 (4/4)
SN74HC27ANS
IC032 (5/5)
SN74HC02ANS
IC035 (3/3)
SN74HC74ANS
SD (0 . . 7)
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
IC019
SN74HCT245ANS
RB016
100k
IC022 (1/3)
SN74HC74ANS
IC022 (2/3)
SN74HC74ANS
IC023 (1/3)
SN74HC74ANS
IC023 (2/3)
SN74HC74ANS
IC024 (1/3)
SN74HC74ANS
IC024 (2/3)
SN74HC74ANS
SDET1
SDET2
SDET3
IC025
SN74HC244ANS
MEM1
MEM2
MEM3
SDET (1 . . 3)
MEM (1 . . 3)
C117 – C135 0.01
5V

**IF-540P** BOARD **(3/5)**
1-671-403-11
B-NMX112-IF540P1

## IF-540P (4/5); ISDN INTERFACE

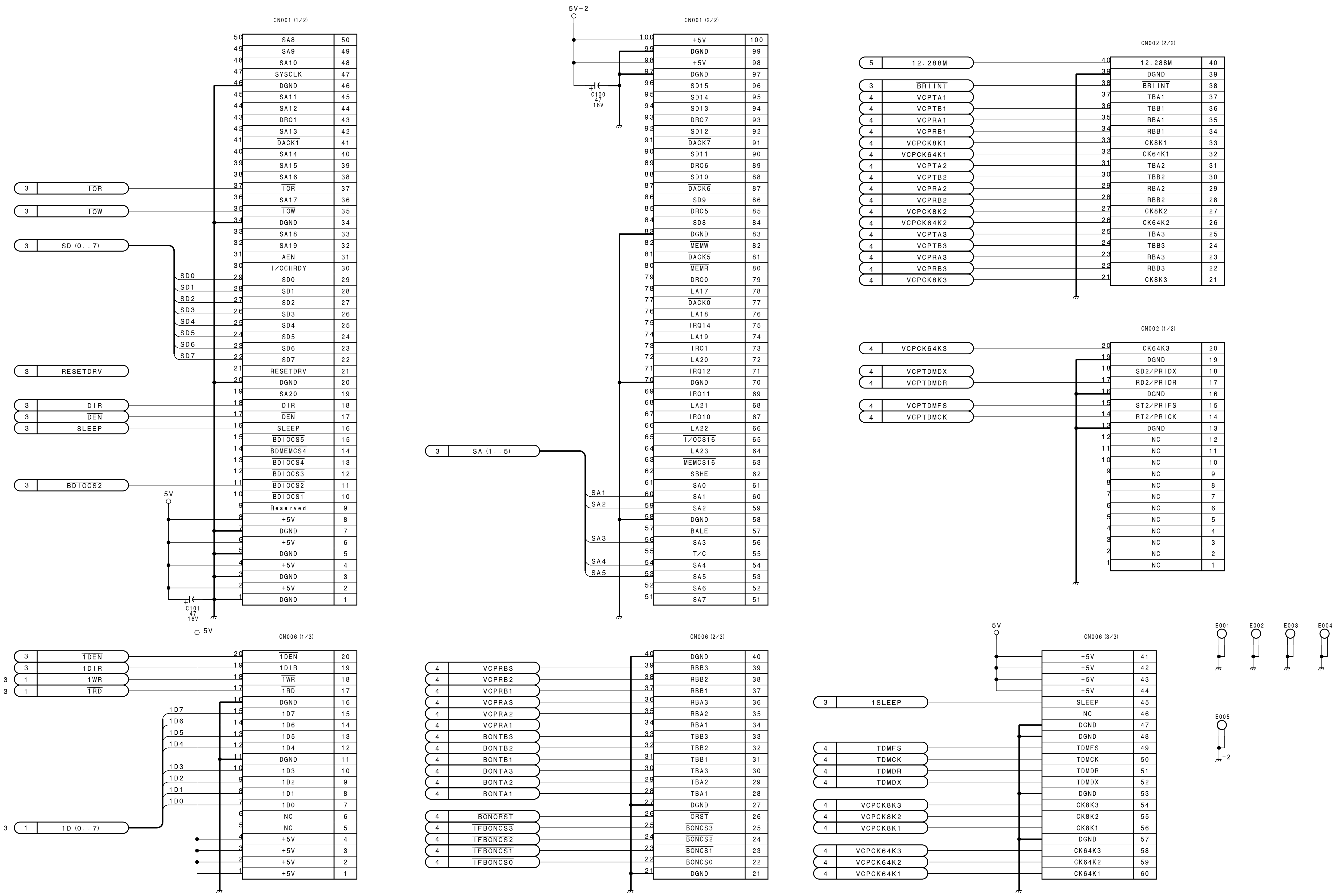
PCS-P500P (CE) ; S/N 53001 and higher


1
2
3
4
5
IC036
SN74HCT244ANS
IC037
SN74HCT244ANS
IC026
SN74HCT244ANS
IC038 (1/2)
SN74HCT157ANS
IC039 (1/2)
SN74HCT157ANS
IC038 (2/2)
SN74HCT157ANS
IC039 (2/2)
SN74HCT157ANS
IC027
SN74HCT244ANS
IC028
SN74HCT244ANS
5V
R114 100k
R115 100k
R116 100k
R117 100k
R092 100k
R094 100k
R118 100k
R096 100k
R098 100k
R108 47
R109 47
R110 47
R111 47
R112 47
R113 47
R107 47
TDMDR
TDMCK
TDMFS
VCPTDMDX
ORST
BONCS0
BONCS1
BONSEL
VCPTDMDR
VCPTDMCK
VCPTDMFS
TDMDX
BONORST
IFBONCS0
IFBONCS1
IFBONCS2
IFBONCS3
VCPTA1
BONTA1
VCPTA2
BONTA2
VCPTA3
BONTA3
BONCS2
BONCS3
TP023
TP024
TP025
TBA1
TBA2
TBA3
TBA (1..3)
TBB (1..3)
VCPTB1
BONTB1
VCPTB2
BONTB2
VCPTB3
BONTB3
TP026
TP027
TP028
TBB1
TBB2
TBB3
12.288M
TP029
TP030
TP031
TP032
TP033
TP034
RBA1
RBA2
RBA3
RBB1
RBB2
RBB3
VCPRA1
VCPRA2
VCPRA3
VCPRB1
VCPRB2
VCPRB3
1CLK
CK64K1
CK64K2
CK64K3
CK8K1
CK8K2
CK8K3
VCPCK64K1
VCPCK64K2
VCPCK64K3
VCPCK8K1
VCPCK8K2
VCPCK8K3
RBA (1..3)
RBB (1..3)
CK64K (1..3)
CK8K (1..3)
C126 0.01
C127 0.01
C128 0.01
C136 0.01
C137 0.01
C138 0.01
C139 0.01

**IF-540P** BOARD **(4/5)**
1-671-403-11
B-NMX112-IF540P1

## IF-540P (5/5); ISDN INTERFACE

PCS-P500P (CE) ; S/N 53001 and higher


CN001 (1/2)
SA8
SA9
SA10
SYSCLK
DGND
SA11
SA12
DRQ1
SA13
DACK1
SA14
SA15
SA16
IOR
SA17
IOW
SA18
SA19
AEN
I/OCHRDY
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
RESETDRV
SA20
DIR
DEN
SLEEP
BDIOCS5
BDMEMCS4
BDIOCS4
BDIOCS3
BDIOCS2
BDIOCS1
Reserved
+5V
SD (0..7)
C101 47 16V
5V
CN001 (2/2)
5V-2
C100 47 16V
DRQ7
DACK7
SD11
DRQ6
SD10
DACK6
SD9
DRQ5
SD8
MEMW
DACK5
MEMR
DRQ0
LA17
DACK0
LA18
IRQ14
LA19
IRQ1
LA20
IRQ12
IRQ11
LA21
IRQ10
LA22
I/OCS16
LA23
MEMCS16
SBHE
SA0
SA1
SA2
BALE
SA3
T/C
SA4
SA5
SA6
SA7
SA (1..5)
CN002 (2/2)
12.288M
BRIINT
TBA1
TBB1
RBA1
RBB1
CK8K1
CK64K1
TBA2
TBB2
RBA2
RBB2
CK8K2
CK64K2
TBA3
TBB3
RBA3
RBB3
CK8K3
VCPTA1
VCPTB1
VCPRA1
VCPRB1
VCPCK8K1
VCPCK64K1
VCPCK8K3
CN002 (1/2)
CK64K3
SD2/PRIDX
RD2/PRIDR
ST2/PRIFS
RT2/PRICK
NC
VCPCK64K3
VCPTDMDX
VCPTDMDR
VCPTDMFS
VCPTDMCK
CN006 (1/3)
1DEN
1DIR
1WR
1RD
1D7
1D6
1D5
1D4
1D3
1D2
1D1
1D0
1D (0..7)
CN006 (2/3)
VCPRB3
VCPRB2
VCPRB1
VCPRA3
VCPRA2
VCPRA1
BONTB3
BONTB2
BONTB1
BONTA3
BONTA2
BONTA1
BONORST
IFBONCS3
IFBONCS2
IFBONCS1
IFBONCS0
ORST
BONCS3
BONCS2
BONCS1
BONCS0
CN006 (3/3)
1SLEEP
TDMFS
TDMCK
TDMDR
TDMDX
VCPCK8K3
VCPCK8K2
VCPCK8K1
VCPCK64K3
VCPCK64K2
VCPCK64K1
CK8K3
CK8K2
CK8K1
CK64K3
CK64K2
CK64K1
E001
E002
E003
E004
E005
-2

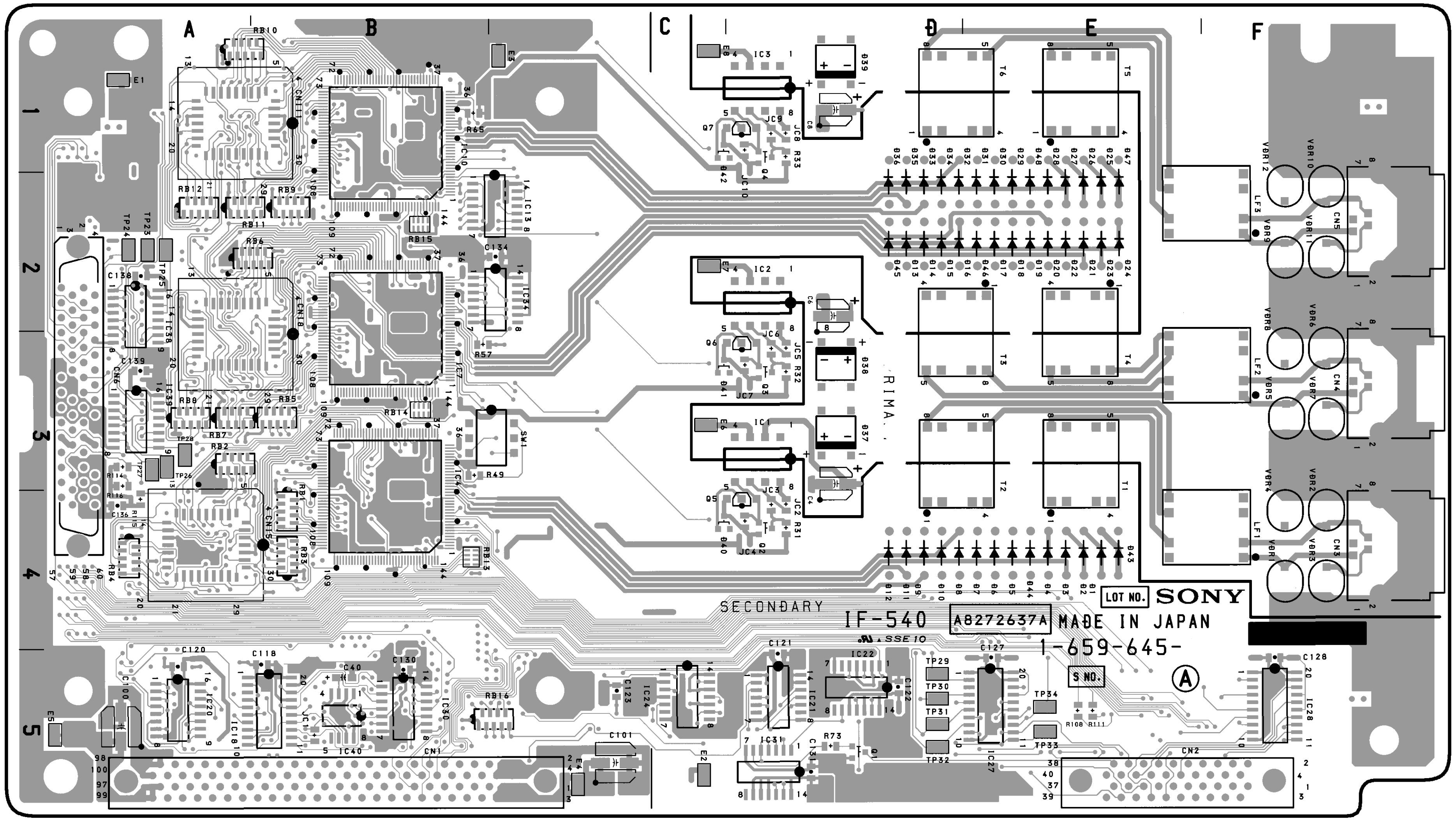
**IF-540P** BOARD **(5/5)**
1-671-403-11
B-NMX112-IF540P1

## IF-540/540P ; ISDN INTERFACE

IF-540 (1-659-645-11)

*:B SDIE

| | |
|---|---|
| CNI5 | A-4 |
| CNI8 | A-3 |
| CNI11 | A-1 |
| CN1 | C-5 |
| CN2 | F-5 |
| CN3 | F-4 |
| CN4 | F-3 |
| CN5 | F-2 |
| CN6 | A-2 |
| D1 | E-4 |
| D2 | E-4 |
| D3 | E-4 |
| D4 | E-4 |
| D5 | E-4 |
| D6 | E-4 |
| D7 | E-4 |
| D8 | D-4 |
| D9 | D-4 |
| D10 | D-4 |
| D11 | D-4 |
| D12 | D-4 |
| D13 | D-2 |
| D14 | D-2 |
| D15 | D-2 |
| D16 | D-2 |
| D17 | E-2 |
| D18 | E-2 |
| D19 | E-2 |
| D20 | E-2 |
| D21 | E-2 |
| D22 | E-2 |
| D23 | E-2 |
| D24 | E-2 |
| D25 | E-2 |
| D26 | E-2 |
| D27 | E-2 |
| D28 | E-2 |
| D29 | E-2 |
| D30 | E-2 |
| D31 | E-2 |
| D32 | D-2 |
| D33 | D-2 |
| D34 | D-2 |
| D35 | D-2 |
| D36 | D-2 |
| D37 | D-3 |
| D38 | D-3 |
| D39 | D-1 |
| D43 | E-4 |
| D44 | E-4 |
| D45 | D-2 |
| D46 | E-2 |
| D47 | E-2 |
| D48 | E-2 |
| E1 | A-1 |
| E2 | C-5 |
| E3 | C-1 |
| E4 | C-5 |
| E5 | A-5 |
| E6 | C-3 |
| E7 | C-2 |
| E8 | C-1 |
| IC1 | D-3 |
| IC2 | D-2 |
| IC3 | D-1 |
| IC4 | B-4 |
| IC6 | *A-4 |
| IC7 | B-2 |
| IC9 | *A-2 |
| IC10 | B-1 |
| IC12 | *A-1 |
| IC13 | C-2 |
| IC14 | *A-4 |
| IC15 | *A-3 |
| IC16 | *A-2 |
| IC17 | *A-5 |
| IC18 | B-5 |
| IC19 | *B-4 |
| IC20 | A-5 |
| IC21 | D-5 |
| IC22 | D-5 |
| IC23 | *C-5 |
| IC24 | C-5 |
| IC25 | *B-5 |
| IC26 | *A-3 |
| IC27 | E-5 |
| IC28 | F-5 |
| IC30 | B-5 |
| IC31 | D-5 |
| IC32 | *B-5 |
| IC34 | C-2 |
| IC35 | *A-2 |
| IC36 | *A-4 |
| IC37 | *A-2 |
| IC38 | A-2 |
| IC39 | A-3 |
| IC40 | B-5 |
| JC3 | D-4 |
| JC6 | D-3 |
| JC9 | D-1 |
| JC11 | *C-4 |
| JC12 | *C-3 |
| JC13 | *C-1 |
| LF1 | F-4 |
| LF2 | F-3 |
| LF3 | F-2 |
| Q1 | D-5 |
| Q2 | D-4 |
| Q3 | D-3 |
| Q4 | D-1 |
| RB1 | B-4 |
| RB2 | A-3 |
| RB3 | B-4 |
| RB4 | A-4 |
| RB5 | B-3 |
| RB6 | B-2 |
| RB7 | A-3 |
| RB8 | A-3 |
| RB9 | B-2 |
| RB10 | A-1 |
| RB11 | A-2 |
| RB12 | A-2 |
| RB13 | B-4 |
| RB14 | B-3 |
| RB15 | B-2 |
| RB16 | C-5 |
| SW1 | B-3 |
| TP23 | A-2 |
| TP24 | A-2 |
| TP25 | A-2 |
| TP26 | A-3 |
| TP27 | A-3 |
| TP28 | A-3 |
| TP29 | D-5 |
| TP30 | D-5 |
| TP31 | D-5 |
| TP32 | D-5 |
| TP33 | E-5 |
| TP34 | E-5 |
| T1 | E-4 |
| T2 | D-4 |
| T3 | E-2 |
| T4 | E-2 |
| T5 | E-1 |
| T6 | D-1 |
| VDR1 | F-4 |
| VDR2 | F-4 |
| VDR3 | F-4 |
| VDR4 | F-4 |
| VDR5 | F-3 |
| VDR6 | F-3 |
| VDR7 | F-3 |
| VDR8 | F-3 |
| VDR9 | F-2 |
| VDR10 | F-2 |
| VDR11 | F-2 |
| VDR12 | F-2 |

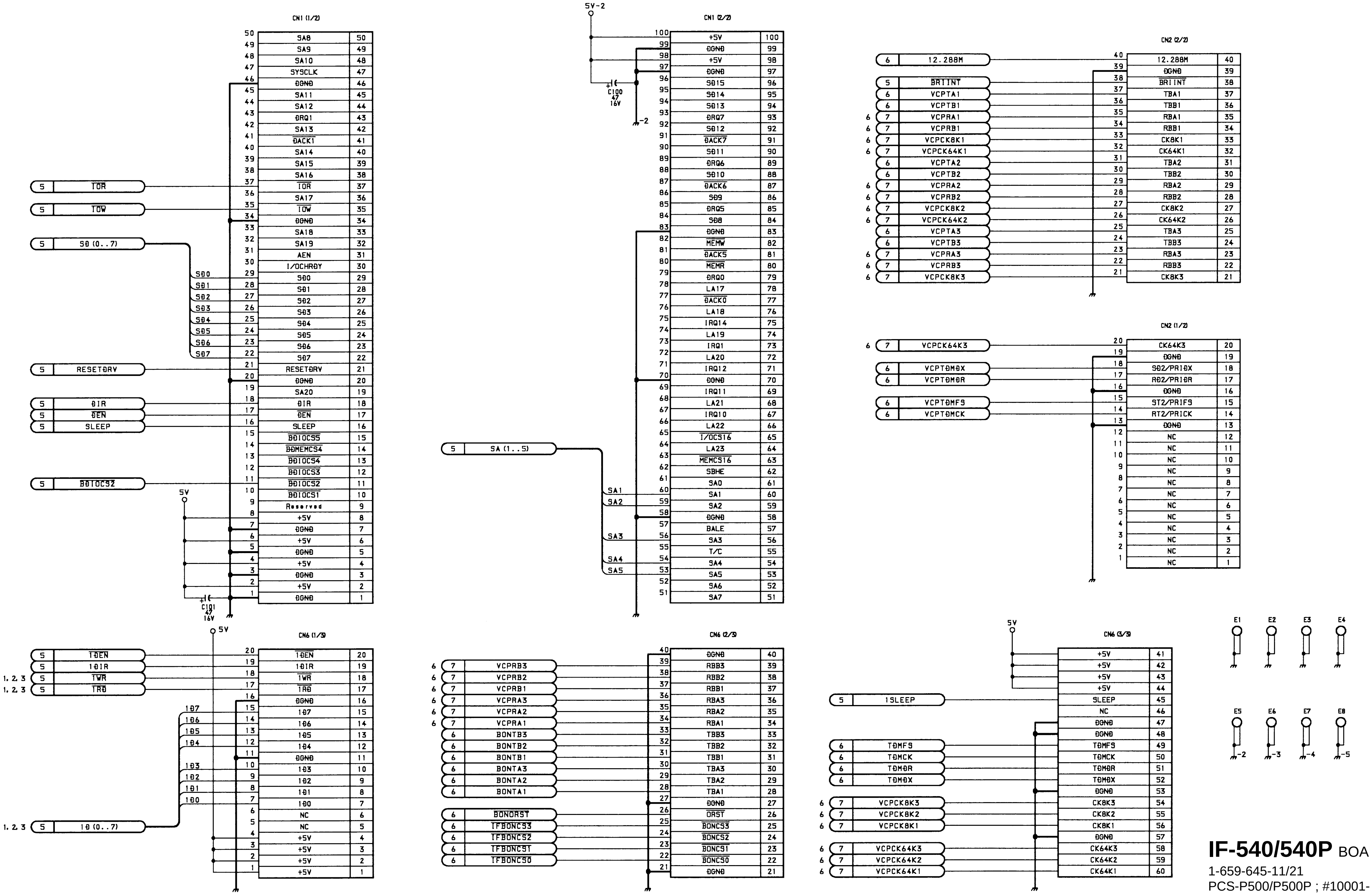


**IF-540/540P** -A SIDE-

1-659-645-11/21

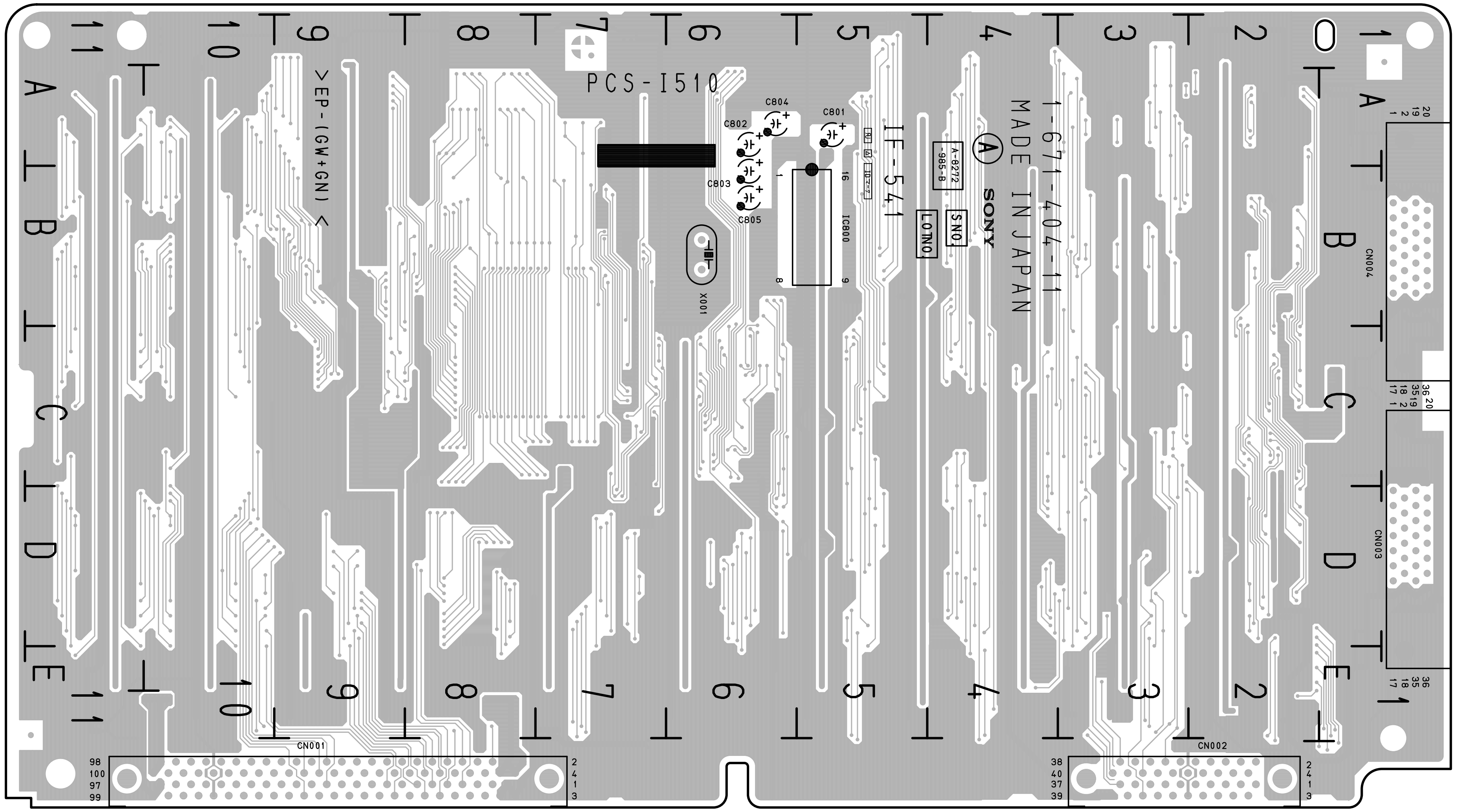
PCS-P500/P500P ; #10001-

**IF-540/540P (7/7); ISDN INTERFACE**


CN1 (1/2)
CN1 (2/2)
CN2 (2/2)
CN2 (1/2)
CN6 (1/3)
CN6 (2/3)
CN6 (3/3)
5V
5V-2
C100 47 16V
C101 47 16V
IOR
IOW
SD (0..7)
RESETDRV
DIR
DEN
SLEEP
BDIOCS2
IDEN
IDIR
IWR
IRD
ID (0..7)
SA (1..5)
VCPRB3
VCPRB2
VCPRB1
VCPRA3
VCPRA2
VCPRA1
BONTB3
BONTB2
BONTB1
BONTA3
BONTA2
BONTA1
BONDRST
IFBONCS3
IFBONCS2
IFBONCS1
IFBONCS0
ISLEEP
TDMFS
TDMCK
TDMDR
TDMDX
VCPCK8K3
VCPCK8K2
VCPCK8K1
VCPCK64K3
VCPCK64K2
VCPCK64K1
12.288M
BRIINT
VCPTA1
VCPTB1
VCPRA1
VCPRB1
VCPTA2
VCPTB2
VCPRA2
VCPRB2
VCPCK8K2
VCPCK64K2
VCPTA3
VCPTB3
VCPRA3
VCPRB3
VCPTDMDX
VCPTDMDR
VCPTDMFS
VCPTDMCK
E1
E2
E3
E4
E5
E6
E7
E8

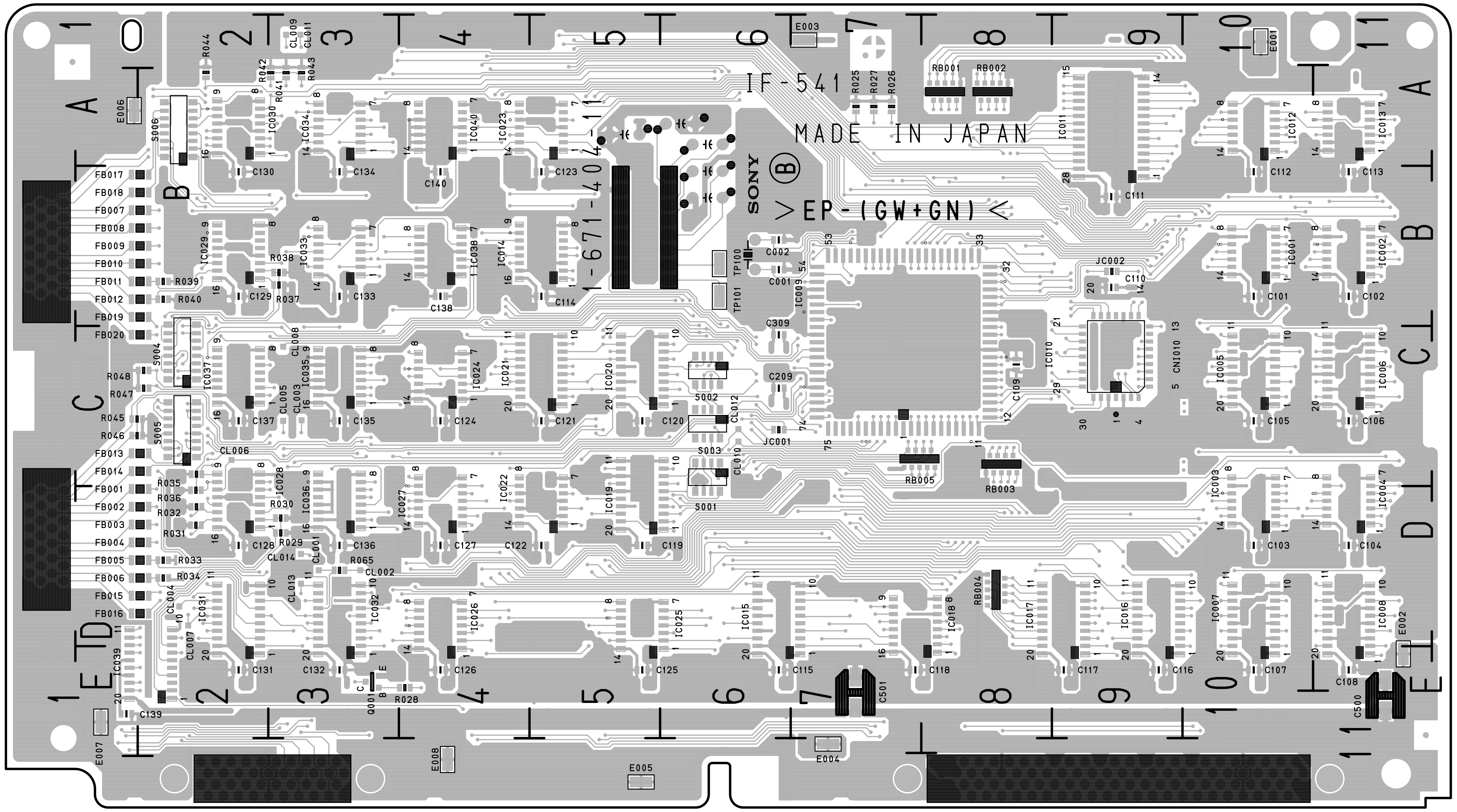
**IF-540/540P** BOARD **(7/7)**
1-659-645-11/21
PCS-P500/P500P ; #10001-

PCS-I510 (J) : SN 33001 and higher
PCS-I510 (UC) : SN 13001 and higher
PCS-I510 (CE) : SN 43001 and higher


PCS-I510
>EP-(GW+GN)<
IF-541
1-671-404-11
MADE IN JAPAN
SONY
A-8272-985-B
S NO.
LOT NO.
C801
C802
C803
C804
C805
IC800
X001
CN001
CN002
CN003
CN004
1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E

**IF-541** **-A SIDE-**

SUFFIX: -11


IF-541
MADE IN JAPAN
SONY
1-671-404-11
>EP-(GW+GN)<
A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
IC009
IC011
IC010
RB001
RB002
RB003
RB004
RB005
S001
S002
S003
S004
S005
S006
E001
E002
E003
E004
E005
E006
E007
E008

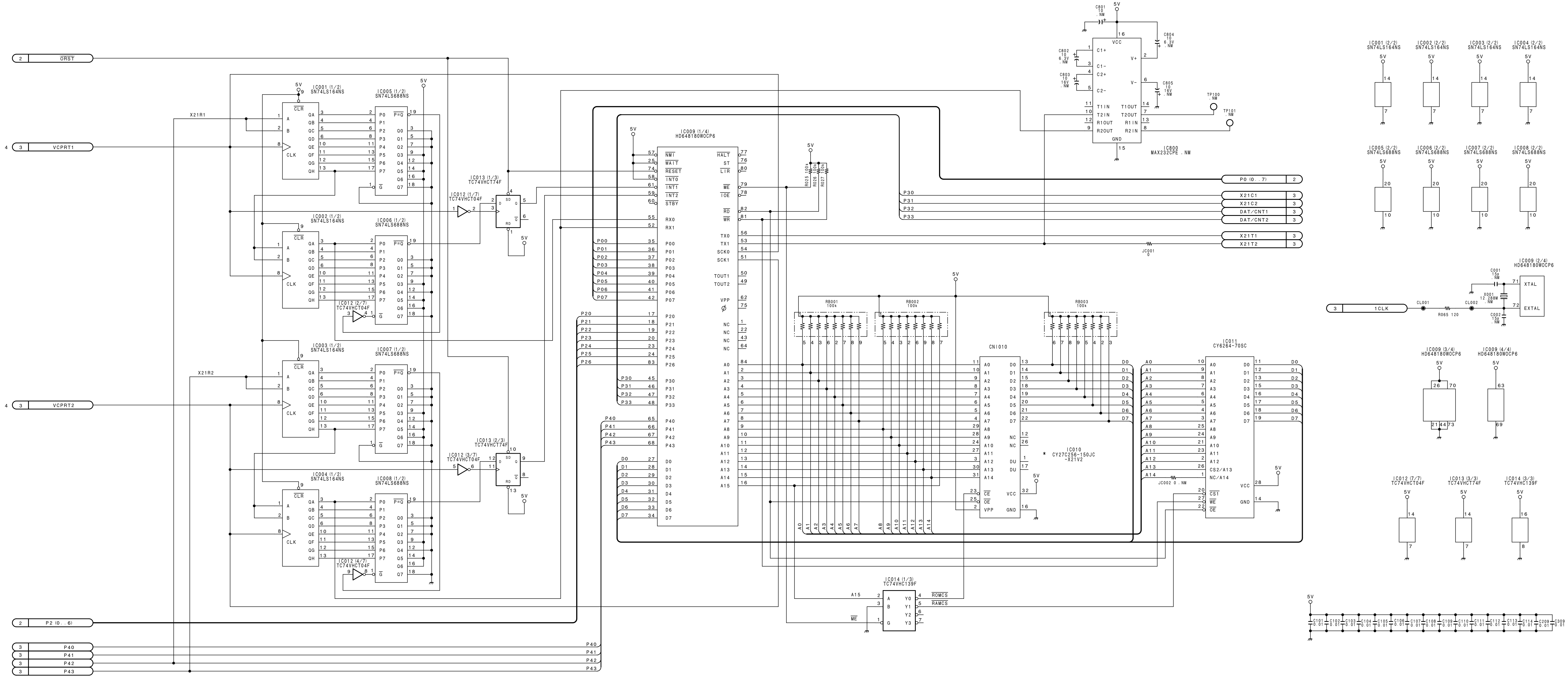
**IF-541** **-B SIDE-**

SUFFIX: -11

80 (PCS-5100/5100P·J, E)

| | |
|---|---|
| PCS-I510 (J) ; | S/N 33001 and higher |
| PCS-I510 (UC) ; | S/N 13001 and higher |
| PCS-I510 (CE) ; | S/N 43001 and higher |

## IF-541 (1/4); X.21 INTERFACE

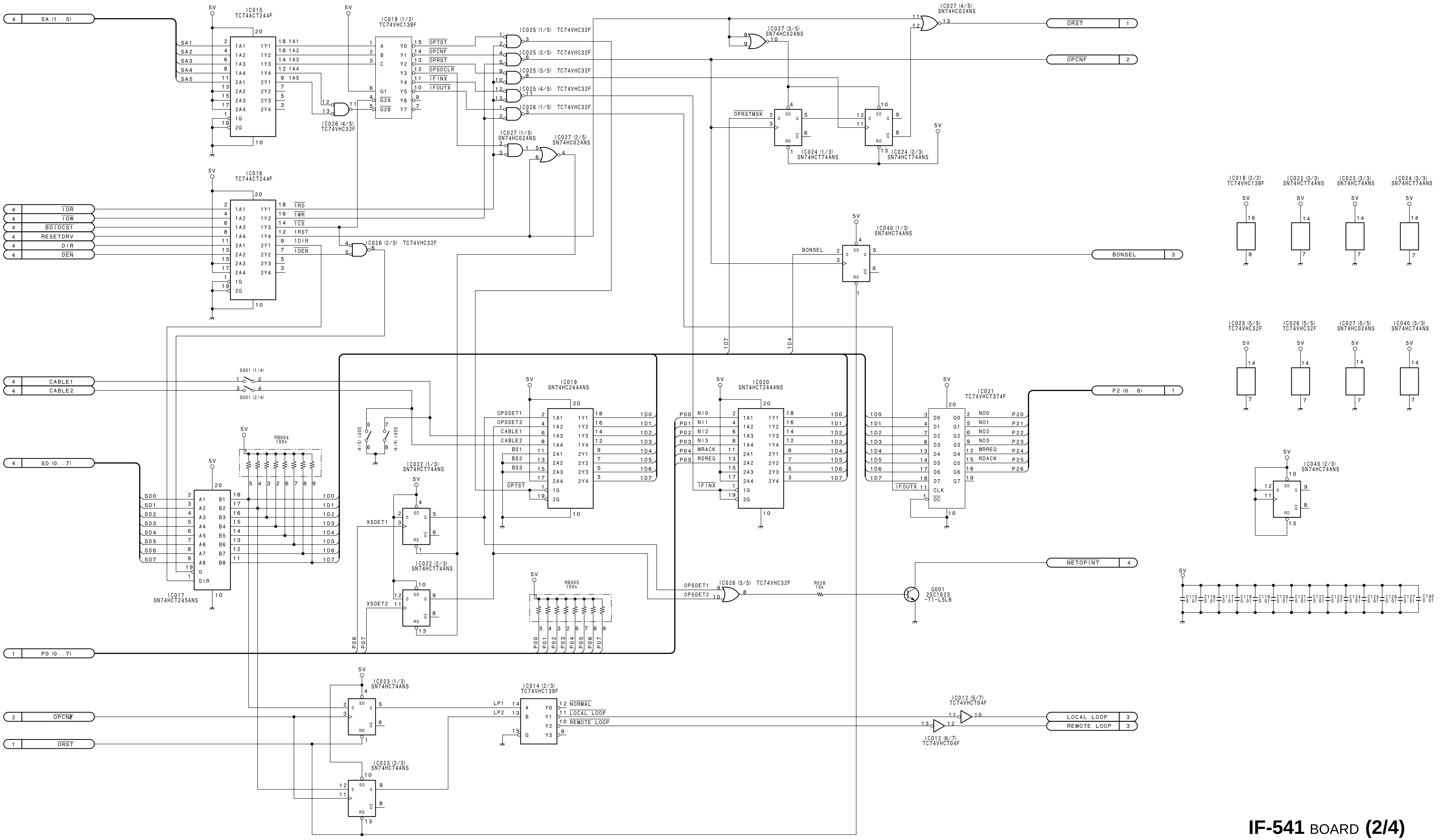

1
2
3
4
5
ORST
X21R1
VCPRT1
X21R2
VCPRT2
P2 (0 . . 6)
P40
P41
P42
P43
IC001 (1/2) SN74LS164NS
IC002 (1/2) SN74LS164NS
IC003 (1/2) SN74LS164NS
IC004 (1/2) SN74LS164NS
IC005 (1/2) SN74LS688NS
IC006 (1/2) SN74LS688NS
IC007 (1/2) SN74LS688NS
IC008 (1/2) SN74LS688NS
IC012 (1/7) TC74VHCT04F
IC012 (2/7) TC74VHCT04F
IC012 (3/7) TC74VHCT04F
IC012 (4/7) TC74VHCT04F
IC013 (1/3) TC74VHCT74F
IC013 (2/3) TC74VHCT74F
IC009 (1/4) HD64180WOCP6
IC800 MAX232CPE . NM
CN1010
IC010 CY27C256-150JC -X21V2
IC011 CY6264-70SC
IC014 (1/3) TC74VHC139F
RB001 100k
RB002 100k
RB003 100k
TP100 NM
TP101 NM
P0 (0 . . 7)
X21C1
X21C2
DAT/CNT1
DAT/CNT2
X21T1
X21T2
ICLK
XTAL
EXTAL
X001 12.288M NM
R065 120
JC001 0
JC002 0 . NM
ROMCS
RAMCS
A15
WE
IC001 (2/2) SN74LS164NS
IC002 (2/2) SN74LS164NS
IC003 (2/2) SN74LS164NS
IC004 (2/2) SN74LS164NS
IC005 (2/2) SN74LS688NS
IC006 (2/2) SN74LS688NS
IC007 (2/2) SN74LS688NS
IC008 (2/2) SN74LS688NS
IC009 (2/4) HD64180WOCP6
IC009 (3/4) HD64180WOCP6
IC009 (4/4) HD64180WOCP6
IC012 (7/7) TC74VHCT04F
IC013 (3/3) TC74VHCT74F
IC014 (3/3) TC74VHC139F
5V

**IF-541** BOARD **(1/4)**
1-671-404-11
B-NMX112-IF541NEW

6-92 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-541 (2/4); X.21 INTERFACE

| | |
|---|---|
| PCS-I510 (J) ; | S/N 33001 and higher |
| PCS-I510 (UC) ; | S/N 13001 and higher |
| PCS-I510 (CE) ; | S/N 43001 and higher |


SA (1 . . 5)
SA1
SA2
SA3
SA4
SA5
IC015 TC74ACT244F
IC018 (1/2) TC74VHC138F
OPTST
OPCNF
OPRST
OPSDCLR
IFINX
IFOUTX
IC025 (1/5) TC74VHC32F
IC025 (2/5) TC74VHC32F
IC025 (3/5) TC74VHC32F
IC025 (4/5) TC74VHC32F
IC026 (1/5) TC74VHC32F
IC026 (4/5) TC74VHC32F
IC027 (1/5) SN74HC02ANS
IC027 (2/5) SN74HC02ANS
IC027 (3/5) SN74HC02ANS
IC027 (4/5) SN74HC02ANS
ORST
OPCNF
OPRSTMSK
IC024 (1/3) SN74HCT74ANS
IC024 (2/3) SN74HCT74ANS
IC016 TC74ACT244F
IOR
IOW
BDIOCS1
RESETDRV
DIR
DEN
IRD
IWR
ICS
1RST
1DIR
1DEN
IC026 (2/5) TC74VHC32F
IC040 (1/3) SN74HC74ANS
BONSEL
CABLE1
CABLE2
S001 (1/4)
S001 (2/4)
S001 (3/4)
S001 (4/4)
SD (0 . . 7)
RB004 100k
IC017 SN74HCT245ANS
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
1D0
1D1
1D2
1D3
1D4
1D5
1D6
1D7
IC022 (1/3) SN74HCT74ANS
IC022 (2/3) SN74HCT74ANS
XSDET1
XSDET2
IC019 SN74HC244ANS
OPSDET1
OPSDET2
BS1
BS2
BS3
IC020 SN74HCT244ANS
P00
P01
P02
P03
P04
P05
P06
P07
NI0
NI1
NI2
NI3
WRACK
RDREQ
IC021 TC74HCT374F
NO0
NO1
NO2
NO3
WRREQ
RDACK
P20
P21
P22
P23
P24
P25
P26
P2 (0 . . 6)
RB005 100k
P0 (0 . . 7)
IC026 (3/5) TC74VHC32F
R028 10k
Q001 2SC1623 -T1-L5L6
NETOPINT
IC023 (1/3) SN74HC74ANS
IC023 (2/3) SN74HC74ANS
OPCNF
ORST
IC014 (2/3) TC74VHC139F
LP1
LP2
NORMAL
LOCAL LOOP
REMOTE LOOP
IC012 (5/7) TC74VHCT04F
IC012 (6/7) TC74VHCT04F
IC018 (2/2) TC74VHC138F
IC022 (3/3) SN74HCT74ANS
IC023 (3/3) SN74HC74ANS
IC024 (3/3) SN74HCT74ANS
IC025 (5/5) TC74VHC32F
IC026 (5/5) TC74VHC32F
IC027 (5/5) SN74HC02ANS
IC040 (3/3) SN74HC74ANS
IC040 (2/3) SN74HC74ANS
C116 0.01
C116 0.01
C117 0.01
C118 0.01
C119 0.01
C120 0.01
C121 0.01
C122 0.01
C123 0.01
C124 0.01
C125 0.01
C126 0.01
C127 0.01
C140 0.01
5V

## IF-541 BOARD (2/4)

1-671-404-11

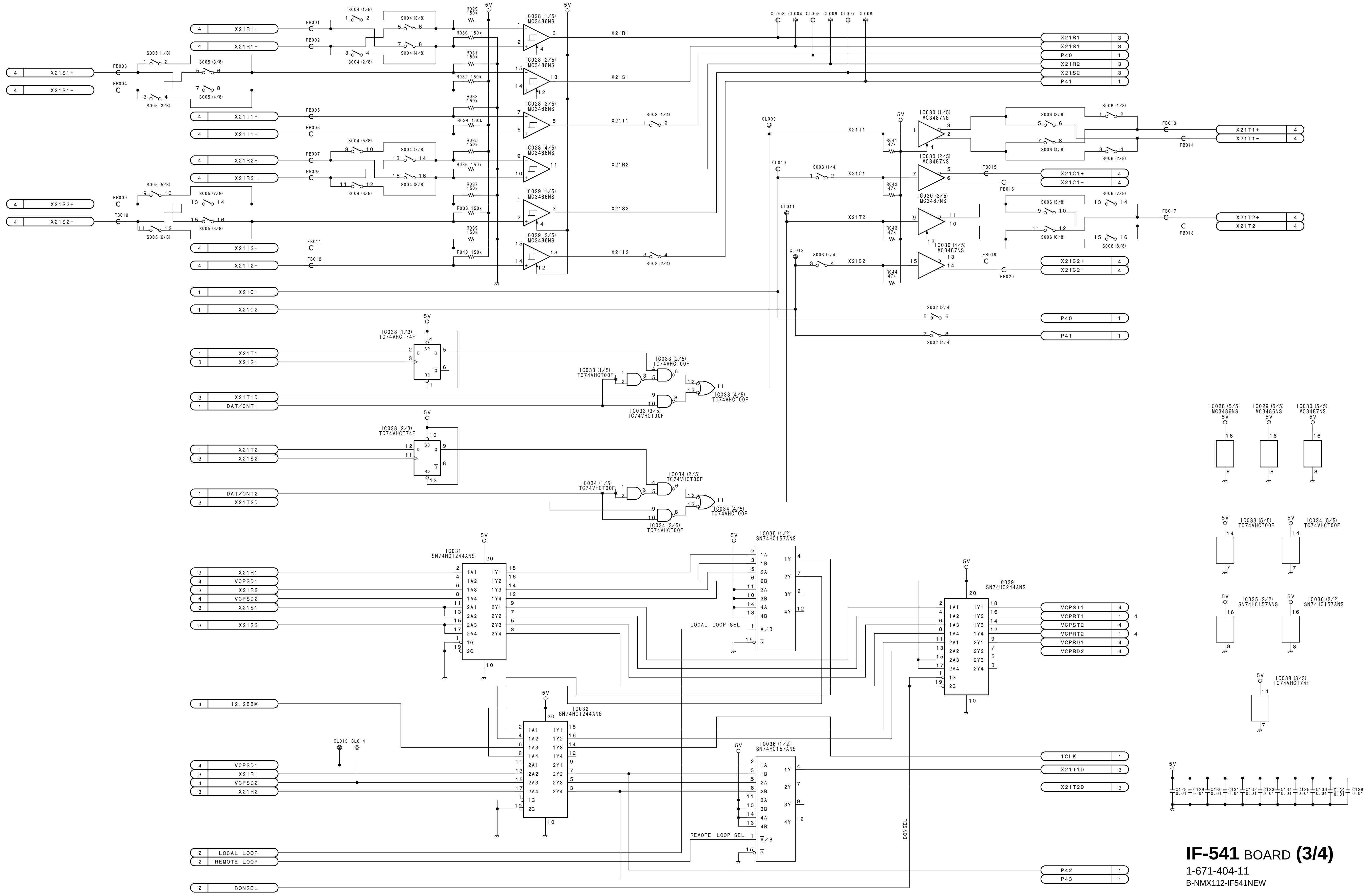
B-NMX112-IF541NEW

6-93 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

82 (PCS-5100/5100P·J, E)

## IF-541 (3/4); X.21 INTERFACE

| | |
|---|---|
| PCS-I510 (J) ; | S/N 33001 and higher |
| PCS-I510 (UC) ; | S/N 13001 and higher |
| PCS-I510 (CE) ; | S/N 43001 and higher |



IC028 MC3486NS
IC029 MC3486NS
IC030 MC3487NS
IC031 SN74HCT244ANS
IC032 SN74HCT244ANS
IC033 TC74VHCT00F
IC034 TC74VHCT00F
IC035 SN74HC157ANS
IC036 SN74HC157ANS
IC038 TC74VHCT74F
IC039 SN74HC244ANS
X21R1+
X21R1-
X21S1+
X21S1-
X21I1+
X21I1-
X21R2+
X21R2-
X21S2+
X21S2-
X21I2+
X21I2-
X21C1
X21C2
X21T1
X21S1
X21T1D
DAT/CNT1
X21T2
X21S2
DAT/CNT2
X21T2D
VCPSD1
VCPSD2
12.288M
LOCAL LOOP
REMOTE LOOP
BONSEL
LOCAL LOOP SEL.
REMOTE LOOP SEL.
X21R1
X21S1
P40
X21R2
X21S2
P41
X21T1+
X21T1-
X21C1+
X21C1-
X21T2+
X21T2-
X21C2+
X21C2-
VCPST1
VCPRT1
VCPST2
VCPRT2
VCPRD1
VCPRD2
1CLK
X21T1D
X21T2D
P42
P43
5V
C128–C139 0.01
1
2
3
4
5
A
B
C
D
E
F
G
H

# IF-541 BOARD (3/4)

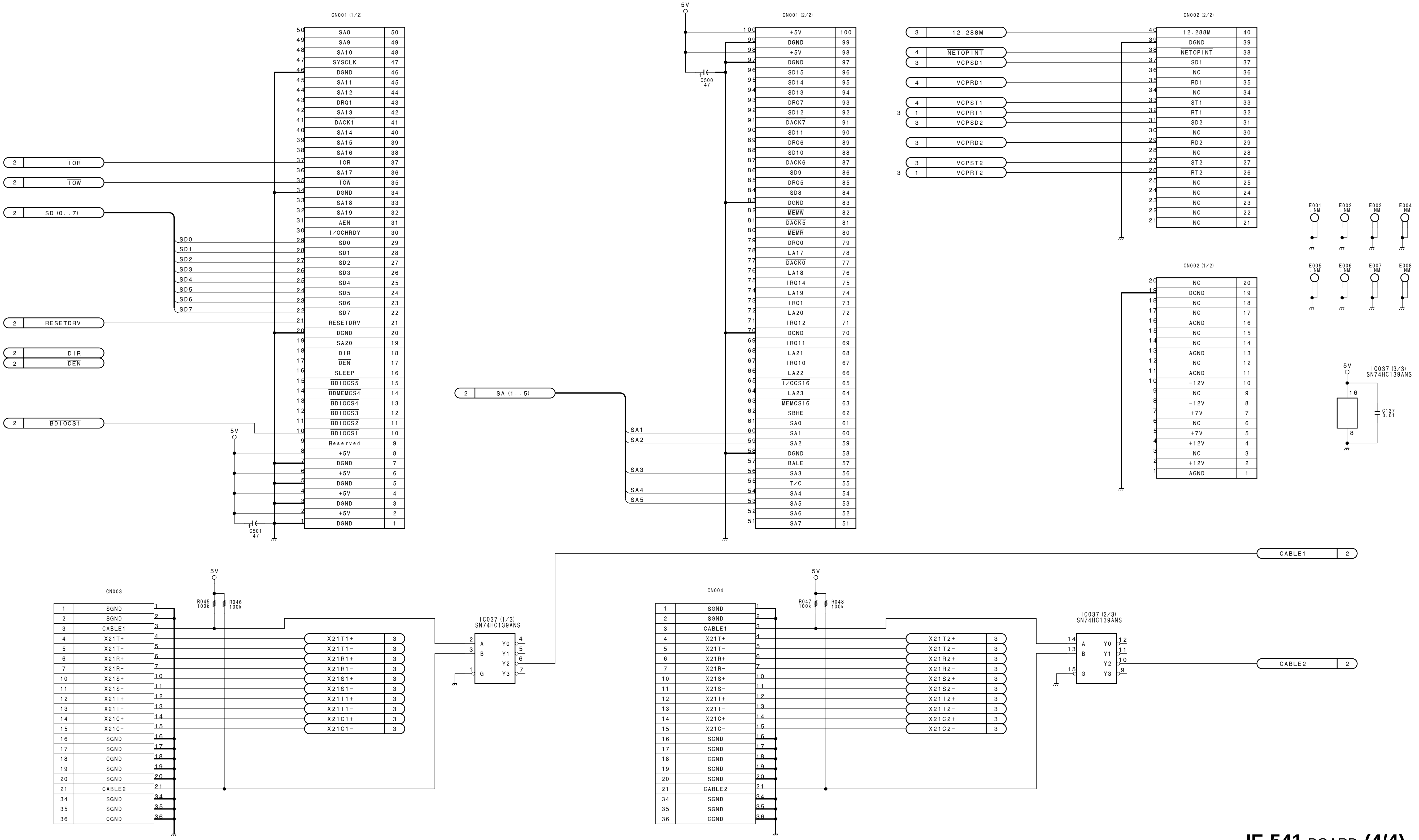
1-671-404-11

B-NMX112-IF541NEW

6-94 (a) (PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-I510 (J) ; | S/N 33001 and higher |
| PCS-I510 (UC) ; | S/N 13001 and higher |
| PCS-I510 (CE) ; | S/N 43001 and higher |

## IF-541 (4/4); X.21 INTERFACE


CN001 (1/2)
CN001 (2/2)
CN002 (2/2)
CN002 (1/2)
CN003
CN004
5V
C500 47
C501 47
IOR
IOW
SD (0..7)
RESETDRV
DIR
DEN
BDIOCS1
SA (1..5)
12.288M
NETOPINT
VCPSD1
VCPRD1
VCPST1
VCPRT1
VCPSD2
VCPRD2
VCPST2
VCPRT2
E001 NM
E002 NM
E003 NM
E004 NM
E005 NM
E006 NM
E007 NM
E008 NM
IC037 (3/3) SN74HC139ANS
C137 0.01
IC037 (1/3) SN74HC139ANS
IC037 (2/3) SN74HC139ANS
R045 100k
R046 100k
R047 100k
R048 100k
CABLE1
CABLE2
X21T1+
X21T1−
X21R1+
X21R1−
X21S1+
X21S1−
X21I1+
X21I1−
X21C1+
X21C1−
X21T2+
X21T2−
X21R2+
X21R2−
X21S2+
X21S2−
X21I2+
X21I2−
X21C2+
X21C2−
1
2
3
4
5
A
B
C
D
E
F
G
H

**IF-541** BOARD **(4/4)**
1-671-404-11
B-NMX112-IF541NEW

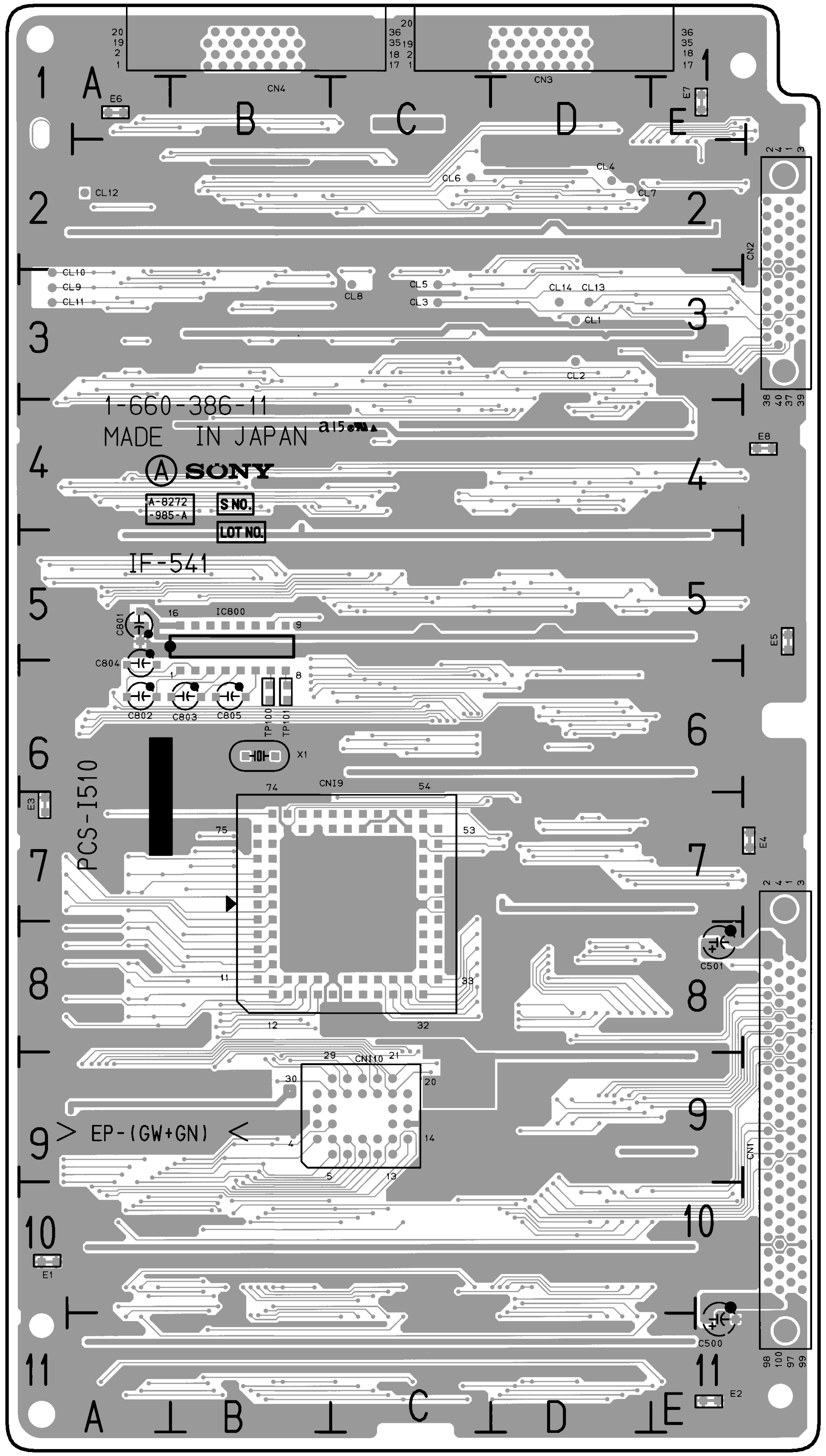
6-95 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-541 ; X.21 INTERFACE

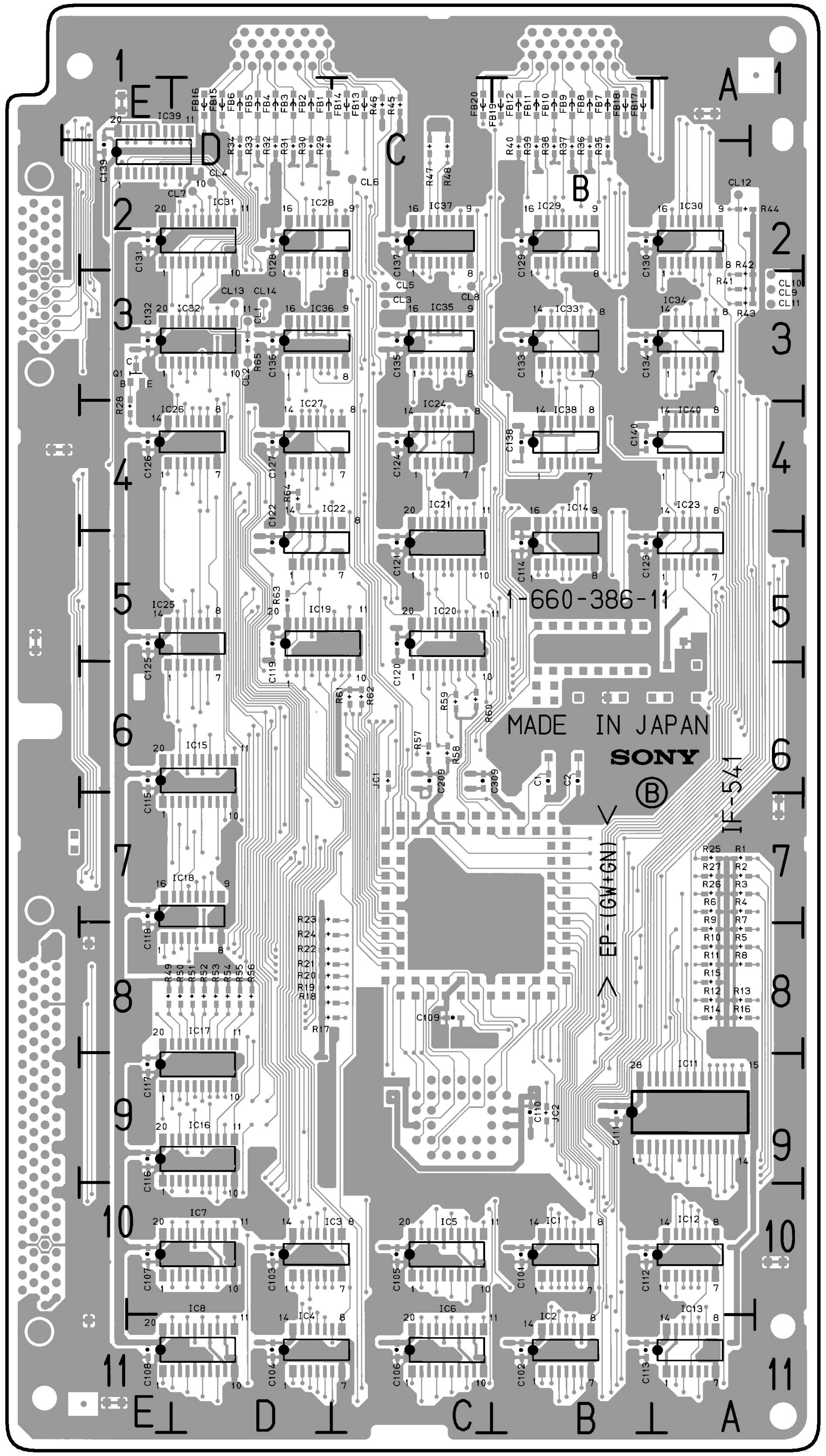
IF-541 (1-660-386-11)

*:B SDIE

| | |
|---|---|
| CNI9 | B-7 |
| CNI10 | C-9 |
| CN1 | E-8 |
| CN2 | E-2 |
| CN3 | D-1 |
| CN4 | B-1 |
| FB1 | *D-1 |
| FB2 | *D-1 |
| FB3 | *D-1 |
| FB4 | *D-1 |
| FB5 | *D-1 |
| FB6 | *D-1 |
| FB7 | *B-1 |
| FB8 | *B-1 |
| FB9 | *B-1 |
| FB10 | *B-1 |
| FB11 | *B-1 |
| FB12 | *B-1 |
| FB13 | *C-1 |
| FB14 | *C-1 |
| FB15 | *D-1 |
| FB16 | *D-1 |
| FB17 | *B-1 |
| FB18 | *B-1 |
| FB19 | *B-1 |
| FB20 | *C-1 |
| IC1 | *B-10 |
| IC2 | *B-11 |
| IC3 | *D-10 |
| IC4 | *D-11 |
| IC5 | *C-10 |
| IC6 | *C-11 |
| IC7 | *D-10 |
| IC8 | *D-11 |
| IC9 | B-7 |
| IC11 | *A-9 |
| IC12 | *A-10 |
| IC13 | *A-11 |
| IC14 | *B-5 |
| IC15 | *D-6 |
| IC16 | *D-9 |
| IC17 | *D-9 |
| IC18 | *D-7 |
| IC19 | *D-5 |
| IC20 | *C-5 |
| IC21 | *C-5 |
| IC22 | *D-5 |
| IC23 | *A-5 |
| IC24 | *C-4 |
| IC25 | *D-5 |
| IC26 | *D-4 |
| IC27 | *D-4 |
| IC28 | *D-2 |
| IC29 | *B-2 |
| IC30 | *A-2 |
| IC31 | *D-2 |
| IC32 | *D-3 |
| IC33 | *B-3 |
| IC34 | *A-3 |
| IC35 | *C-3 |
| IC36 | *D-3 |
| IC37 | *C-2 |
| IC38 | *B-4 |
| IC39 | *E-2 |
| IC40 | *A-4 |
| JC1 | *C-6 |
| Q1 | *E-3 |

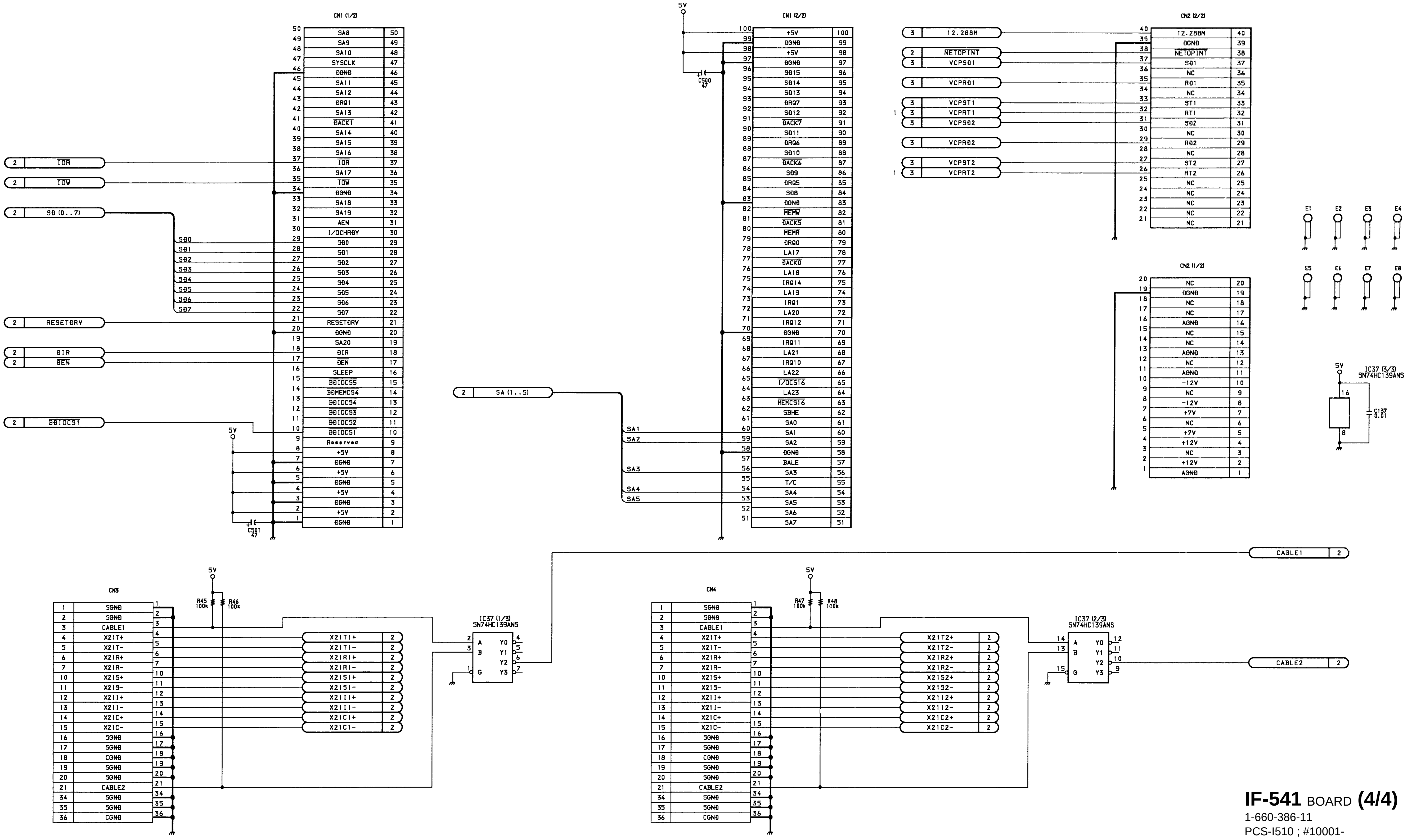

A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
CN4
CN3
CN2
CN1
CN19
CN110
IC800
1-660-386-11
MADE IN JAPAN
Ⓐ SONY
A-8272-985-A
S NO.
LOT NO.
IF-541
PCS-I510
EP-(GW+GN)
C501
C500
X1

**IF-541 -A SIDE-**
1-660-386-11
PCS-I510 ; #10001-


A
B
C
D
E
1
2
3
4
5
6
7
8
9
10
11
1-660-386-11
MADE IN JAPAN
SONY
Ⓑ
IF-541
EP-(GW+GN)
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC21
IC22
IC23
IC24
IC25
IC26
IC27
IC28
IC29
IC30
IC31
IC32
IC33
IC34
IC35
IC36
IC37
IC38
IC39
IC40
JC1

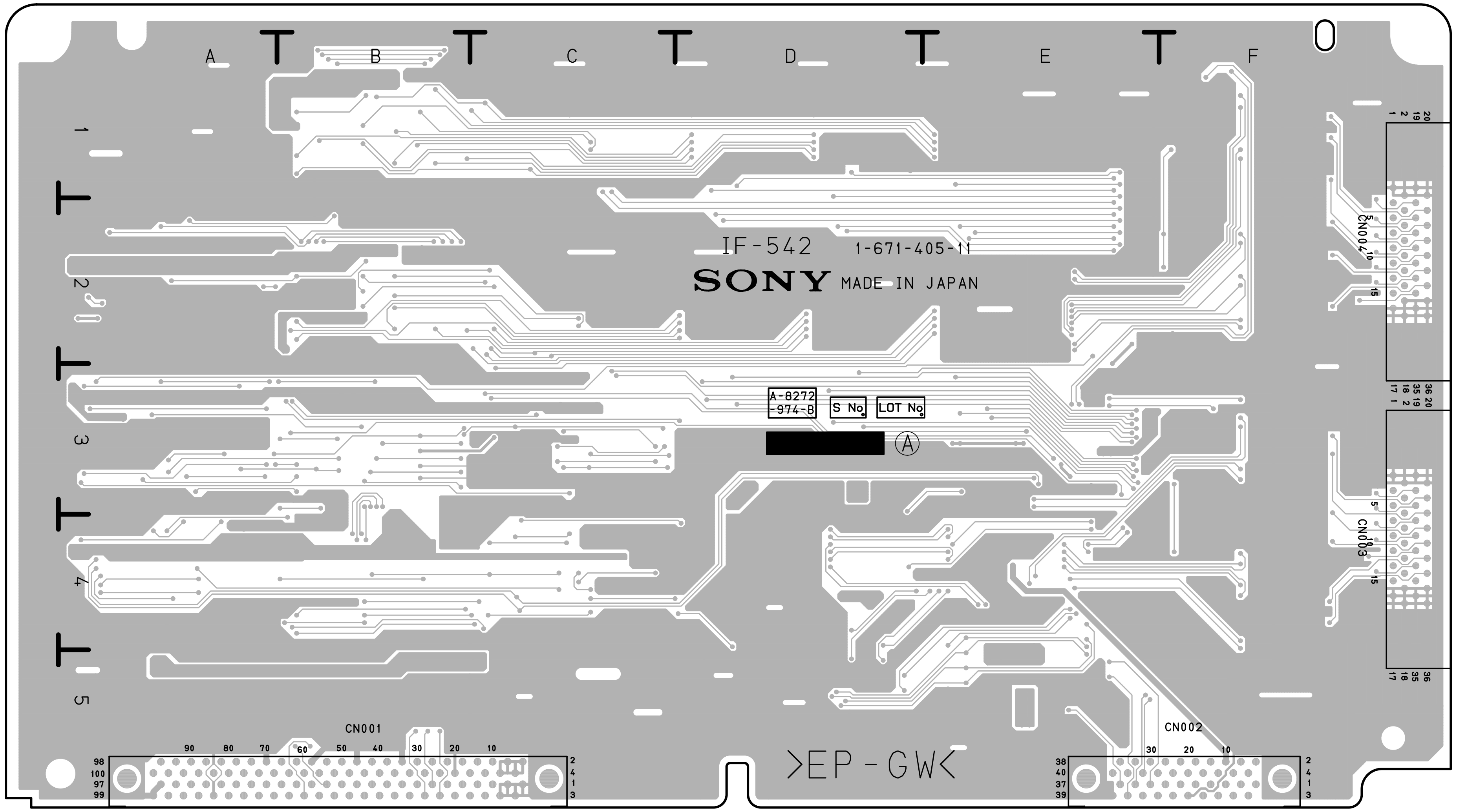
**IF-541 -B SIDE-**
1-660-386-11
PCS-I510 ; #10001-

## IF-541 (4/4) ; X.21 INTERFACE


CN1 (1/2)
CN1 (2/2)
CN2 (2/2)
CN2 (1/2)
CN3
CN4
IOR
IOW
SD (0..7)
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
RESETDRV
DIR
DEN
B0IOCS1
SA (1..5)
SA1
SA2
SA3
SA4
SA5
5V
C501 47
C500 47
12.288M
NETOPINT
VCPSD1
VCPRD1
VCPST1
VCPRT1
VCPSD2
VCPRD2
VCPST2
VCPRT2
E1
E2
E3
E4
E5
E6
E7
E8
IC37 (3/3) SN74HC139ANS
C137 0.01
CABLE1
CABLE2
R45 100k
R46 100k
R47 100k
R48 100k
IC37 (1/3) SN74HC139ANS
IC37 (2/3) SN74HC139ANS
X21T1+
X21T1-
X21R1+
X21R1-
X21S1+
X21S1-
X21I1+
X21I1-
X21C1+
X21C1-
X21T2+
X21T2-
X21R2+
X21R2-
X21S2+
X21S2-
X21I2+
X21I2-
X21C2+
X21C2-
SGND
CGND
X21T+
X21T-
X21R+
X21R-
X21S+
X21S-
X21I+
X21I-
X21C+
X21C-

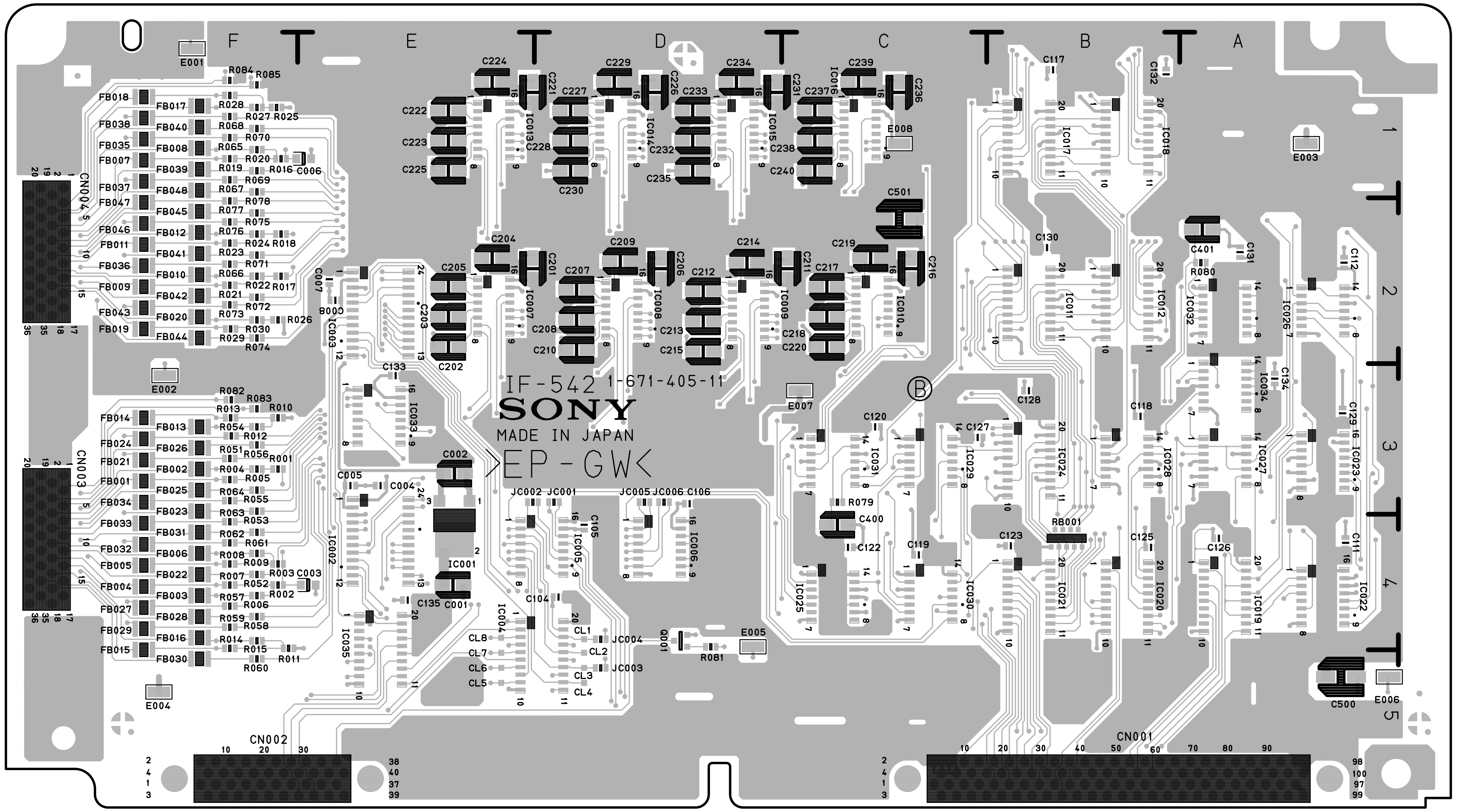
**IF-541** BOARD **(4/4)**
1-660-386-11
PCS-I510 ; #10001-

PCS-I500 (J) : SN 33001 and higher
PCS-I500 (UC) : SN 13001 and higher
PCS-I500 (CE) : SN 43001 and higher


A
B
C
D
E
F
1
2
3
4
5
IF-542 1-671-405-11
SONY MADE IN JAPAN
A-8272-974-B
S No
LOT No
Ⓐ
CN004
CN003
CN001
CN002
>EP-GW<

**IF-542 -A SIDE-**

SUFFIX: -11


F
E
D
C
B
A
1
2
3
4
5
IF-542 1-671-405-11
SONY
MADE IN JAPAN
>EP-GW<
CN001
CN002
CN003
CN004
IC001
IC002
IC003
IC004
IC005
IC006
IC007
IC008
IC009
IC010
IC011
IC012
IC013
IC014
IC015
IC016
IC017
IC018
IC019
IC020
IC021
IC022
IC023
IC024
IC025
IC026
IC027
IC028
IC029
IC030
IC031
IC032
IC033
IC034
IC035
E001
E002
E003
E004
E005
E006
E007
E008
RB001
Q001
C500
C501

**IF-542** **-B SIDE-**

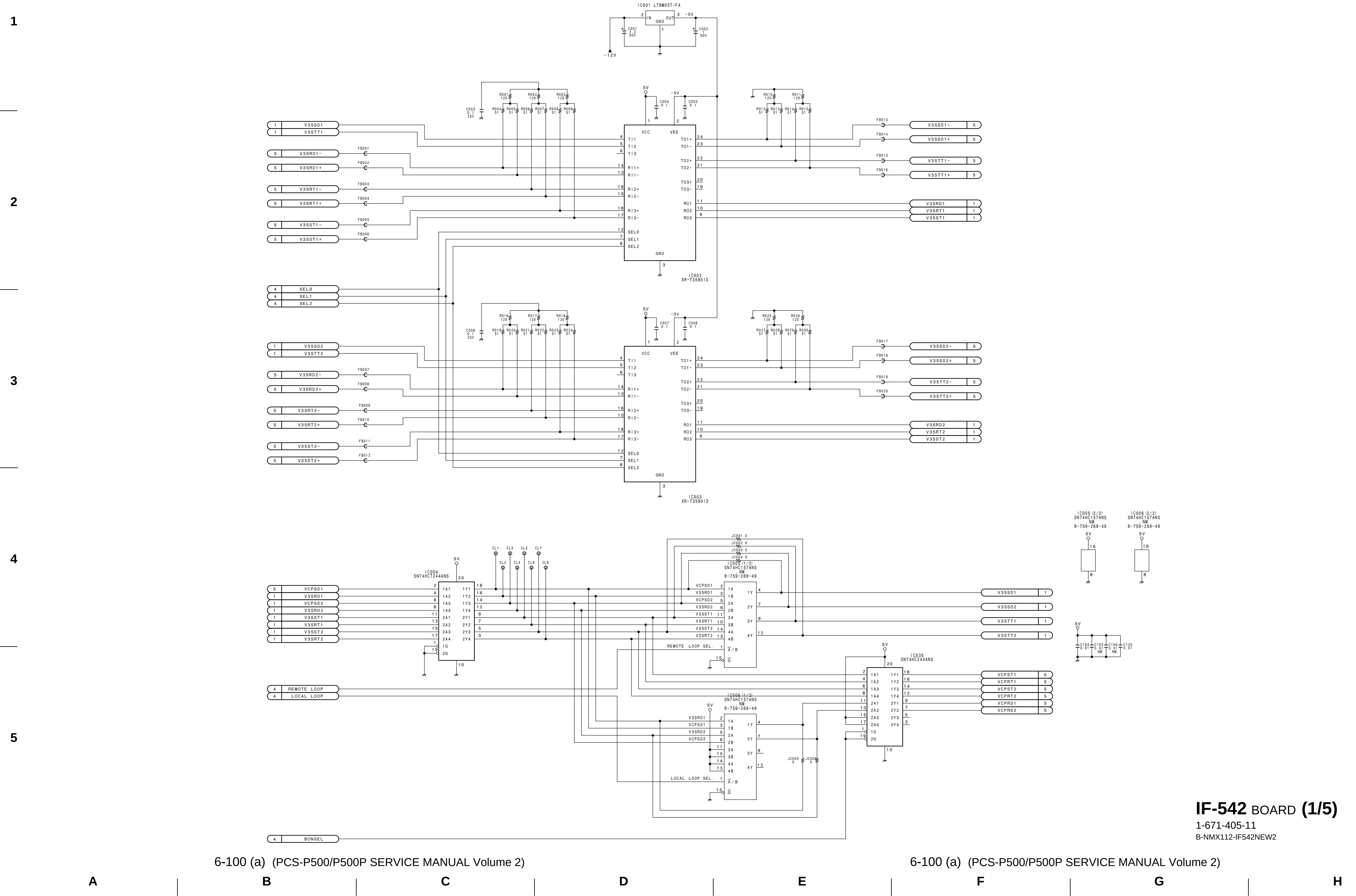
SUFFIX: -11

6-99 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

IF-542 (1/5)

## IF-542 (1/5); V.35 INTERFACE

| | |
|---|---|
| PCS-I500 (J) ; | S/N 33001 and higher |
| PCS-I500 (UC) ; | S/N 13001 and higher |
| PCS-I500 (CE) ; | S/N 43001 and higher |

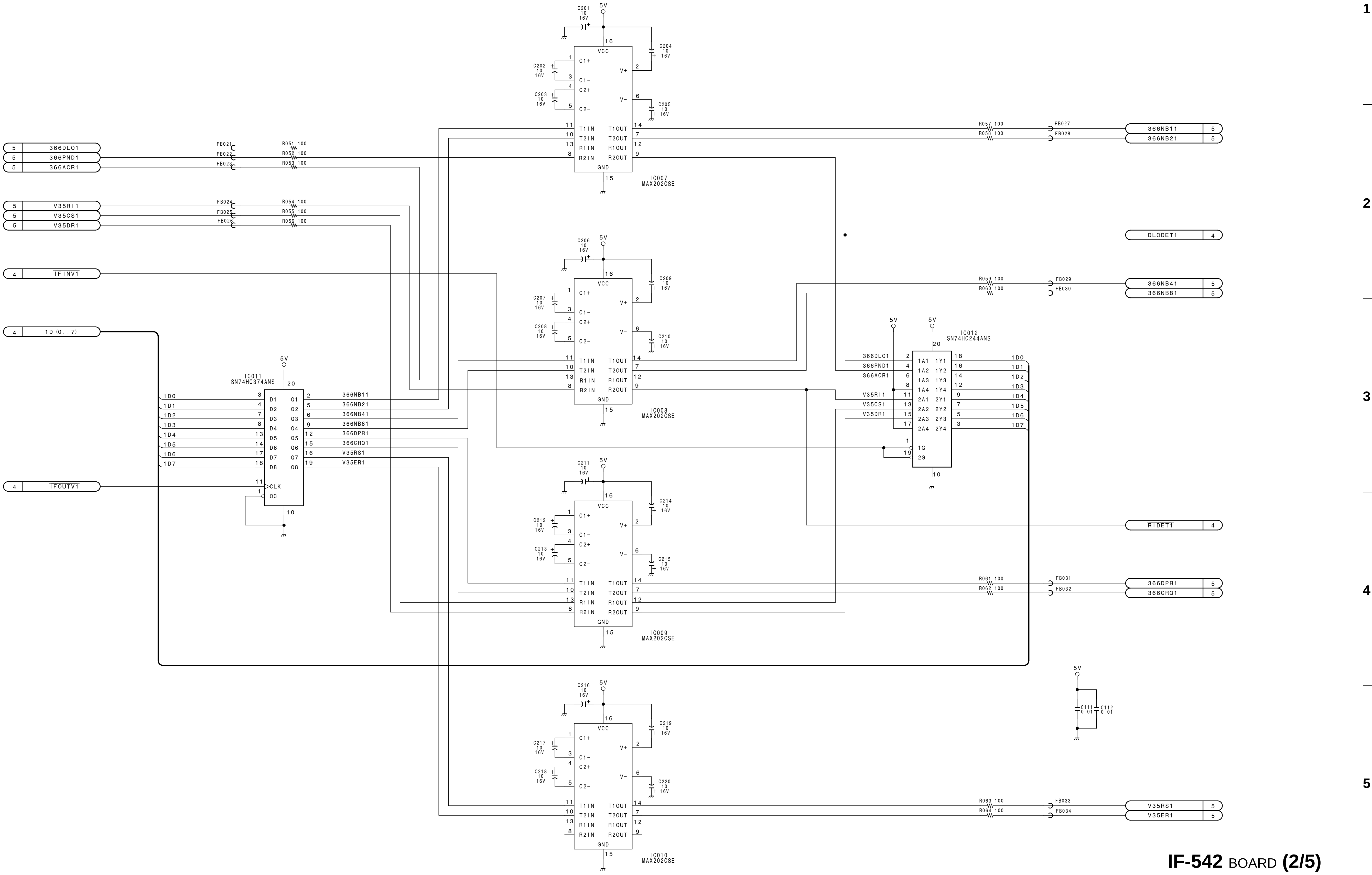

1
2
3
4
5
A
B
C
D
E
F
G
H
IC001 L79M05T-FA
IN
OUT
GND
-5V
-12V
C001
C002
IC002
XR-T3590ID
IC003
XR-T3590ID
VCC
VEE
TI1
TI2
TI3
RI1+
RI1-
RI2+
RI2-
RI3+
RI3-
SEL0
SEL1
SEL2
TO1+
TO1-
TO2+
TO2-
TO3+
TO3-
RO1
RO2
RO3
GND
5V
V35SD1
V35TT1
V35RD1-
V35RD1+
V35RT1-
V35RT1+
V35ST1-
V35ST1+
SEL0
SEL1
SEL2
V35SD1-
V35SD1+
V35TT1-
V35TT1+
V35RD1
V35RT1
V35ST1
V35SD2
V35TT2
V35RD2-
V35RD2+
V35RT2-
V35RT2+
V35ST2-
V35ST2+
V35SD2-
V35SD2+
V35TT2-
V35TT2+
V35RD2
V35RT2
V35ST2
IC004
SN74HCT244ANS
VCPSD1
V35RD1
VCPSD2
V35RD2
V35ST1
V35RT1
V35ST2
V35RT2
CL1
CL2
CL3
CL4
CL5
CL6
CL7
CL8
IC005 (1/2)
SN74HC157ANS
NM
8-759-269-49
REMOTE LOOP SEL.
A/B
G
REMOTE LOOP
LOCAL LOOP
IC006 (1/2)
SN74HC157ANS
NM
8-759-269-49
LOCAL LOOP SEL.
IC035
SN74HC244ANS
VCPST1
VCPRT1
VCPST2
VCPRT2
VCPRD1
VCPRD2
BONSEL
IC005 (2/2)
SN74HC157ANS
NM
8-759-269-49
IC006 (2/2)
SN74HC157ANS
NM
8-759-269-49
C104
C105
C106
C135
0.01
JC001 0
JC002 0
JC003 0
JC004 0
JC005 0
JC006 0

**IF-542** BOARD **(1/5)**
1-671-405-11
B-NMX112-IF542NEW2

6-100 (a) (PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-542 (2/5); V.35 INTERFACE

| | |
|---|---|
| PCS-I500 (J) ; | S/N 33001 and higher |
| PCS-I500 (UC) ; | S/N 13001 and higher |
| PCS-I500 (CE) ; | S/N 43001 and higher |



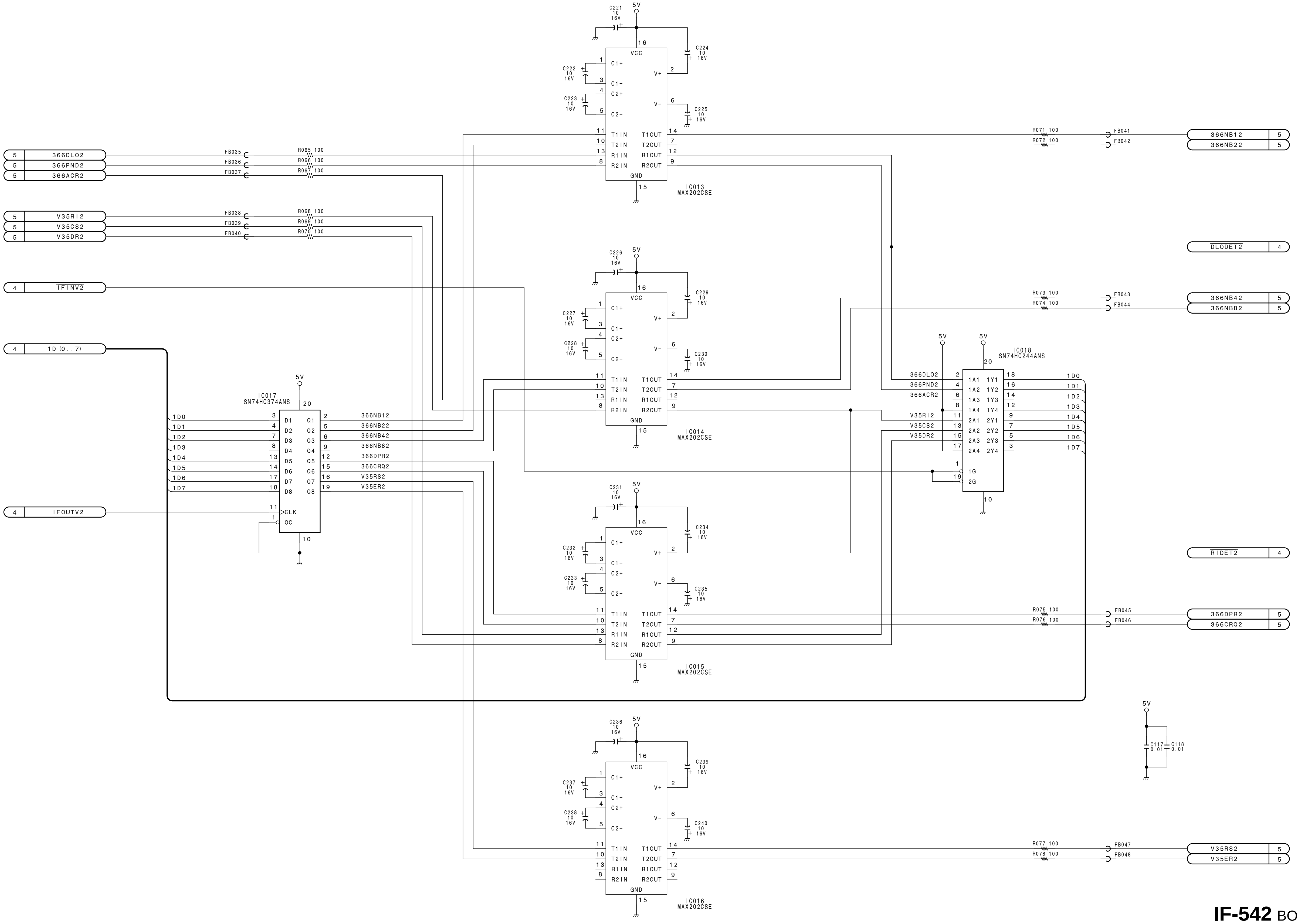
1
2
3
4
5
366DLO1
366PND1
366ACR1
V35RI1
V35CS1
V35DR1
IFINV1
1D (0 . . 7)
IFOUTV1
FB021
FB022
FB023
FB024
FB025
FB026
R051 100
R052 100
R053 100
R054 100
R055 100
R056 100
IC011
SN74HC374ANS
5V
1D0
1D1
1D2
1D3
1D4
1D5
1D6
1D7
CLK
OC
366NB11
366NB21
366NB41
366NB81
366DPR1
366CRQ1
V35RS1
V35ER1
C201 10 16V
C202 10 16V
C203 10 16V
C204 10 16V
C205 10 16V
VCC
C1+
C1−
C2+
C2−
V+
V−
T1IN
T2IN
R1IN
R2IN
T1OUT
T2OUT
R1OUT
R2OUT
GND
IC007
MAX202CSE
C206 10 16V
C207 10 16V
C208 10 16V
C209 10 16V
C210 10 16V
IC008
MAX202CSE
C211 10 16V
C212 10 16V
C213 10 16V
C214 10 16V
C215 10 16V
IC009
MAX202CSE
C216 10 16V
C217 10 16V
C218 10 16V
C219 10 16V
C220 10 16V
IC010
MAX202CSE
IC012
SN74HC244ANS
1A1
1A2
1A3
1A4
2A1
2A2
2A3
2A4
1Y1
1Y2
1Y3
1Y4
2Y1
2Y2
2Y3
2Y4
1G
2G
R057 100
R058 100
R059 100
R060 100
R061 100
R062 100
R063 100
R064 100
FB027
FB028
FB029
FB030
FB031
FB032
FB033
FB034
DLODET1
RIDET1
C111 0.01
C112 0.01

**IF-542** BOARD **(2/5)**
1-671-405-11
B-NMX112-IF542NEW2

6-101 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-542 (3/5); V.35 INTERFACE

| | |
|---|---|
| PCS-I500 (J) ; | S/N 33001 and higher |
| PCS-I500 (UC) ; | S/N 13001 and higher |
| PCS-I500 (CE) ; | S/N 43001 and higher |



5 366DLO2
5 366PND2
5 366ACR2
5 V35RI2
5 V35CS2
5 V35DR2
4 IFINV2
4 1D (0..7)
4 IFOUTV2
FB035 FB036 FB037 FB038 FB039 FB040
R065 100 R066 100 R067 100 R068 100 R069 100 R070 100
IC013 MAX202CSE
IC014 MAX202CSE
IC015 MAX202CSE
IC016 MAX202CSE
VCC C1+ C1− C2+ C2− V+ V− T1IN T2IN R1IN R2IN T1OUT T2OUT R1OUT R2OUT GND
C221 10 16V C222 10 16V C223 10 16V C224 10 16V C225 10 16V
C226 10 16V C227 10 16V C228 10 16V C229 10 16V C230 10 16V
C231 10 16V C232 10 16V C233 10 16V C234 10 16V C235 10 16V
C236 10 16V C237 10 16V C238 10 16V C239 10 16V C240 10 16V
5V
IC017 SN74HC374ANS
D1 D2 D3 D4 D5 D6 D7 D8 CLK OC Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8
366NB12 366NB22 366NB42 366NB82 366DPR2 366CRQ2 V35RS2 V35ER2
IC018 SN74HC244ANS
1A1 1A2 1A3 1A4 2A1 2A2 2A3 2A4 1G 2G 1Y1 1Y2 1Y3 1Y4 2Y1 2Y2 2Y3 2Y4
1D0 1D1 1D2 1D3 1D4 1D5 1D6 1D7
R071 100 R072 100 R073 100 R074 100 R075 100 R076 100 R077 100 R078 100
FB041 FB042 FB043 FB044 FB045 FB046 FB047 FB048
366NB12 5
366NB22 5
DLODET2 4
366NB42 5
366NB82 5
RIDET2 4
366DPR2 5
366CRQ2 5
V35RS2 5
V35ER2 5
C117 0.01 C118 0.01

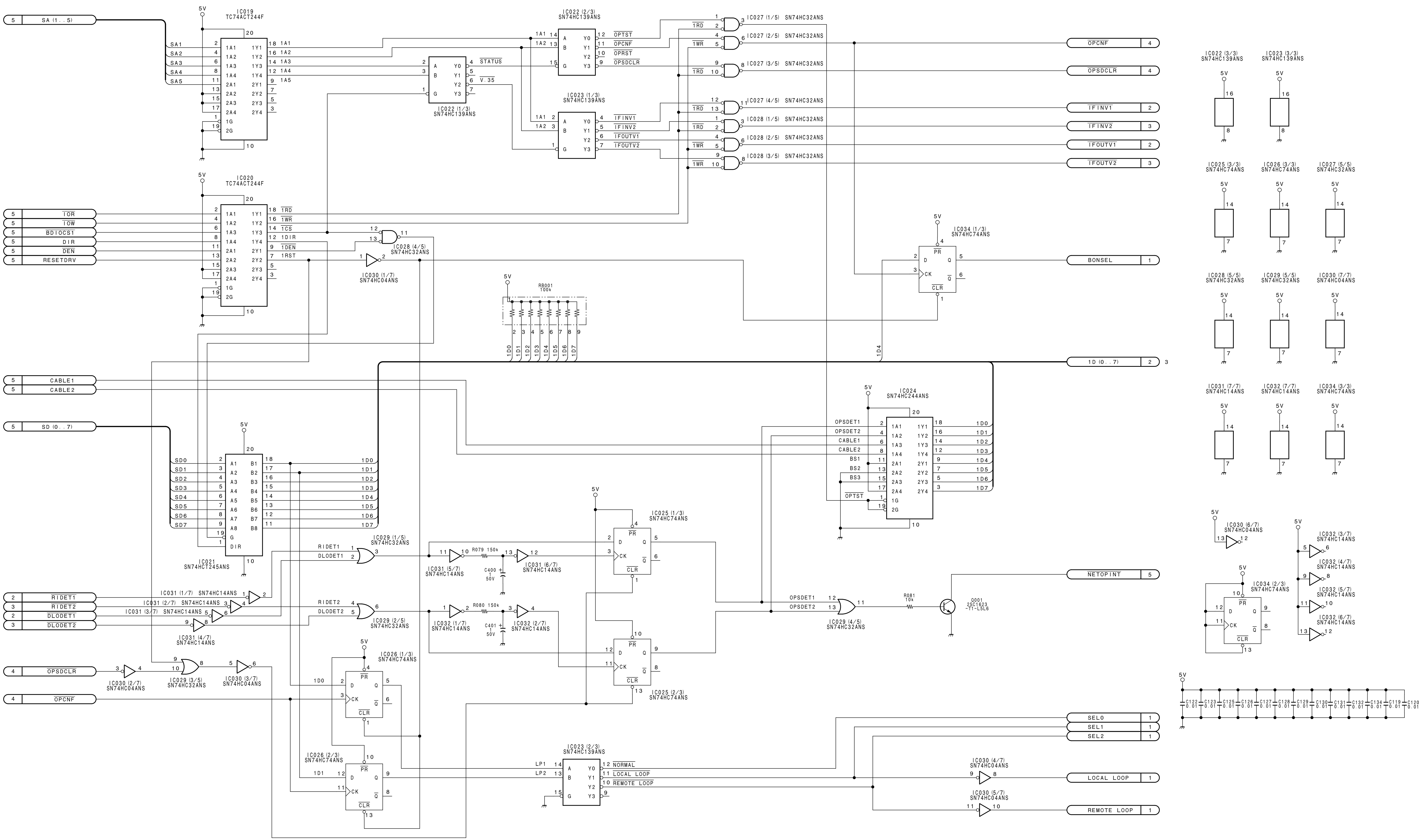
## IF-542 BOARD (3/5)

1-671-405-11

B-NMX112-IF542NEW2

## IF-542 (4/5); V.35 INTERFACE

| | |
|---|---|
| PCS-I500 (J) ; | S/N 33001 and higher |
| PCS-I500 (UC) ; | S/N 13001 and higher |
| PCS-I500 (CE) ; | S/N 43001 and higher |


1
2
3
4
5
SA (1..5)
SA1
SA2
SA3
SA4
SA5
IC019
TC74ACT244F
IC020
TC74ACT244F
IOR
IOW
BDIOCS1
DIR
DEN
RESETDRV
CABLE1
CABLE2
SD (0..7)
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
IC021
SN74HCT245ANS
IC022 (1/3)
SN74HC139ANS
IC022 (2/3)
SN74HC139ANS
IC023 (1/3)
SN74HC139ANS
IC023 (2/3)
SN74HC139ANS
STATUS
V.35
OPTST
OPCNF
OPRST
OPSDCLR
IFINV1
IFINV2
IFOUTV1
IFOUTV2
IC027 (1/5) SN74HC32ANS
IC027 (2/5) SN74HC32ANS
IC027 (3/5) SN74HC32ANS
IC027 (4/5) SN74HC32ANS
IC028 (1/5) SN74HC32ANS
IC028 (2/5) SN74HC32ANS
IC028 (3/5) SN74HC32ANS
IC028 (4/5)
SN74HC32ANS
IC030 (1/7)
SN74HC04ANS
IC034 (1/3)
SN74HC74ANS
BONSEL
R8001
100k
1D (0..7)
ID0
ID1
ID2
ID3
ID4
ID5
ID6
ID7
IC024
SN74HC244ANS
OPSDET1
OPSDET2
BS1
BS2
BS3
RIDET1
RIDET2
DLODET1
DLODET2
IC029 (1/5)
SN74HC32ANS
IC029 (2/5)
SN74HC32ANS
IC029 (3/5)
SN74HC32ANS
IC029 (4/5)
SN74HC32ANS
IC031 (1/7) SN74HC14ANS
IC031 (2/7) SN74HC14ANS
IC031 (3/7) SN74HC14ANS
IC031 (4/7)
SN74HC14ANS
IC031 (5/7)
SN74HC14ANS
IC031 (6/7)
SN74HC14ANS
IC032 (1/7)
SN74HC14ANS
IC032 (2/7)
SN74HC14ANS
R079 150k
R080 150k
C400
1
50V
C401
1
50V
IC025 (1/3)
SN74HC74ANS
IC025 (2/3)
SN74HC74ANS
IC026 (1/3)
SN74HC74ANS
IC026 (2/3)
SN74HC74ANS
IC030 (2/7)
SN74HC04ANS
IC030 (3/7)
SN74HC04ANS
NETOPINT
R081
10k
Q001
2SC1623
-T1-L5L6
LP1
LP2
NORMAL
LOCAL LOOP
REMOTE LOOP
SEL0
SEL1
SEL2
IC030 (4/7)
SN74HC04ANS
IC030 (5/7)
SN74HC04ANS
IC022 (3/3)
SN74HC139ANS
IC023 (3/3)
SN74HC139ANS
IC025 (3/3)
SN74HC74ANS
IC026 (3/3)
SN74HC74ANS
IC027 (5/5)
SN74HC32ANS
IC028 (5/5)
SN74HC32ANS
IC029 (5/5)
SN74HC32ANS
IC030 (7/7)
SN74HC04ANS
IC031 (7/7)
SN74HC14ANS
IC032 (7/7)
SN74HC14ANS
IC034 (3/3)
SN74HC74ANS
IC030 (6/7)
SN74HC04ANS
IC032 (3/7)
SN74HC14ANS
IC032 (4/7)
SN74HC14ANS
IC032 (5/7)
SN74HC14ANS
IC032 (6/7)
SN74HC14ANS
IC034 (2/3)
SN74HC74ANS
5V
C122 0.01
C123 0.01
C125 0.01
C126 0.01
C127 0.01
C128 0.01
C129 0.01
C130 0.01
C131 0.01
C132 0.01
C134 0.01
C119 0.01
C120 0.01
A
B
C
D
E
F
G
H

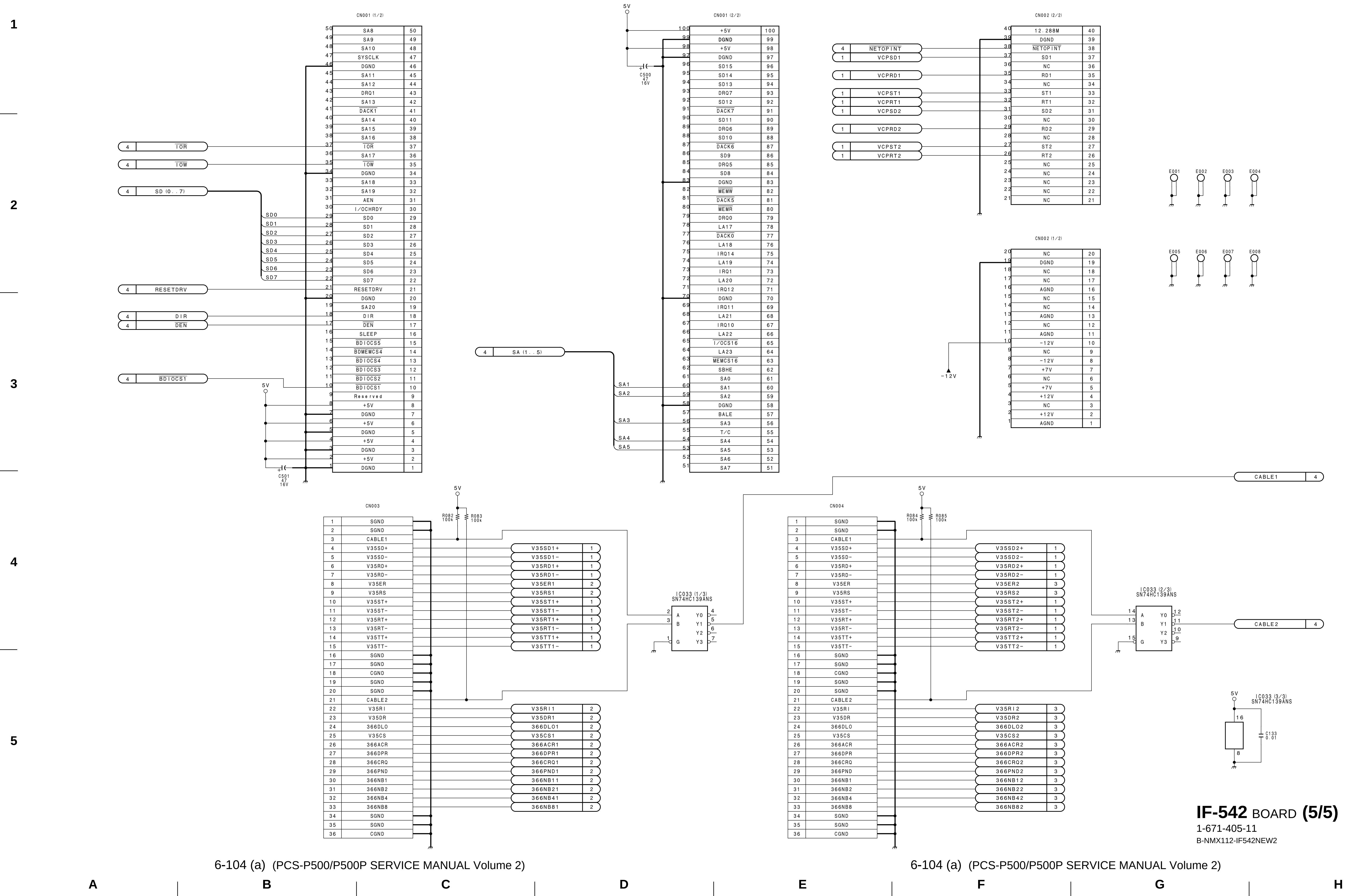
**IF-542** BOARD **(4/5)**
1-671-405-11
B-NMX112-IF542NEW2

6-103 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

92 (PCS-5100/5100P·J, E)

## IF-542 (5/5); V.35 INTERFACE

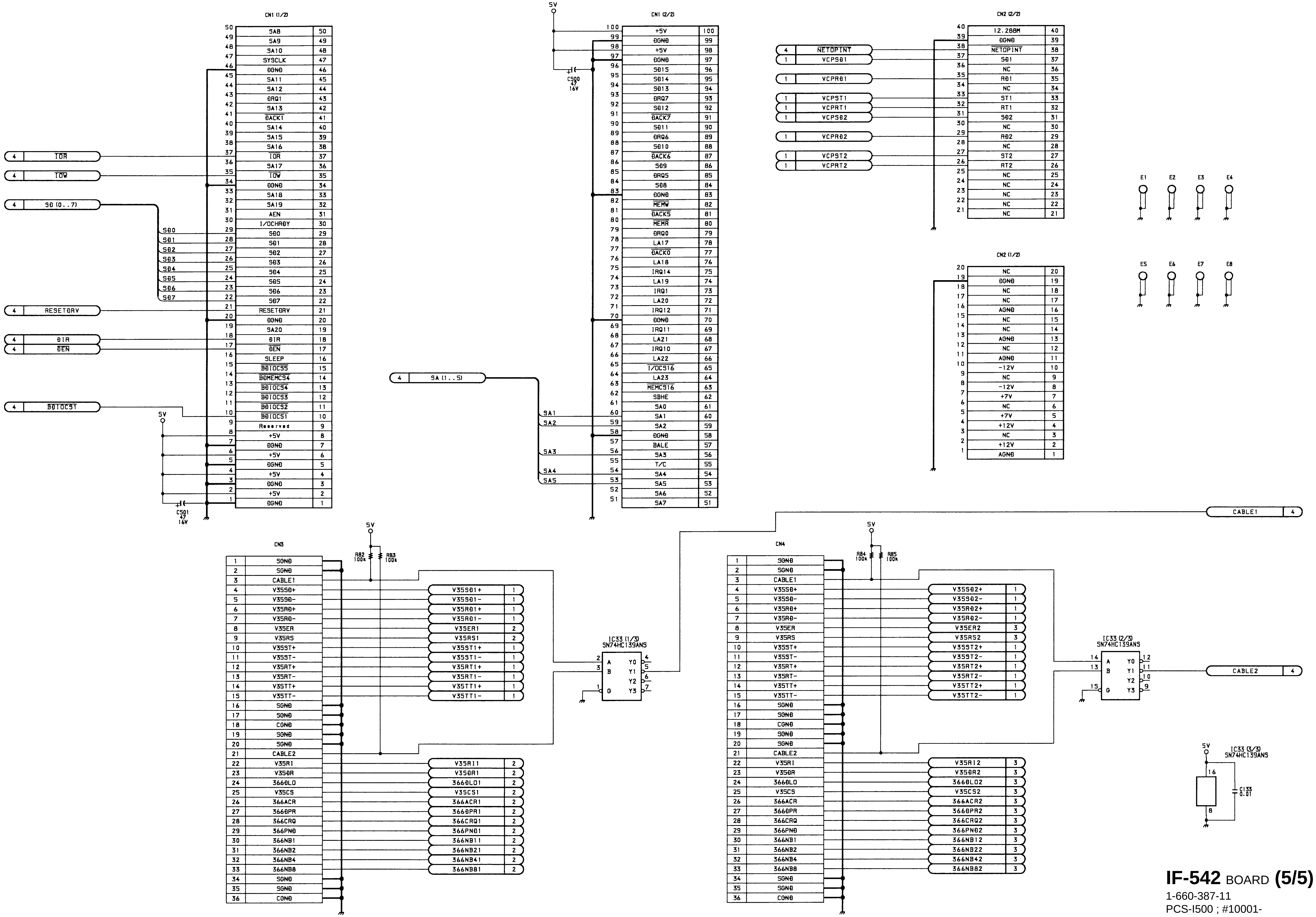
| | |
|---|---|
| PCS-I500 (J) ; | S/N 33001 and higher |
| PCS-I500 (UC) ; | S/N 13001 and higher |
| PCS-I500 (CE) ; | S/N 43001 and higher |


1
2
3
4
5
A
B
C
D
E
F
G
H
CN001 (1/2)
SA8 SA9 SA10 SYSCLK DGND SA11 SA12 DRQ1 SA13 DACK1 SA14 SA15 SA16 IOR SA17 IOW DGND SA18 SA19 AEN I/OCHRDY SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7 RESETDRV DGND SA20 DIR DEN SLEEP BDIOCS5 BDMEMCS4 BDIOCS4 BDIOCS3 BDIOCS2 BDIOCS1 Reserved +5V DGND +5V DGND +5V DGND +5V DGND
IOR
IOW
SD (0..7)
RESETDRV
DIR
DEN
BDIOCS1
5V
C501 47 16V
CN001 (2/2)
+5V DGND +5V DGND SD15 SD14 SD13 DRQ7 SD12 DACK7 SD11 DRQ6 SD10 DACK6 SD9 DRQ5 SD8 DGND MEMW DACK5 MEMR DRQ0 LA17 DACK0 LA18 IRQ14 LA19 IRQ1 LA20 IRQ12 DGND IRQ11 LA21 IRQ10 LA22 I/OCS16 LA23 MEMCS16 SBHE SA0 SA1 SA2 DGND BALE SA3 T/C SA4 SA5 SA6 SA7
C500 47 16V
SA (1..5)
CN002 (2/2)
12.288M DGND NETOPINT SD1 NC RD1 NC ST1 RT1 SD2 NC RD2 NC ST2 RT2 NC NC NC NC NC
NETOPINT VCPSD1 VCPRD1 VCPST1 VCPRT1 VCPSD2 VCPRD2 VCPST2 VCPRT2
CN002 (1/2)
NC DGND NC NC AGND NC NC AGND NC AGND -12V NC -12V +7V NC +7V +12V NC +12V AGND
-12V
E001 E002 E003 E004 E005 E006 E007 E008
CN003
SGND SGND CABLE1 V35SD+ V35SD- V35RD+ V35RD- V35ER V35RS V35ST+ V35ST- V35RT+ V35RT- V35TT+ V35TT- SGND SGND CGND SGND SGND CABLE2 V35RI V35DR 366DLO V35CS 366ACR 366DPR 366CRQ 366PND 366NB1 366NB2 366NB4 366NB8 SGND SGND CGND
R082 100k R083 100k
V35SD1+ V35SD1- V35RD1+ V35RD1- V35ER1 V35RS1 V35ST1+ V35ST1- V35RT1+ V35RT1- V35TT1+ V35TT1-
V35RI1 V35DR1 366DLO1 V35CS1 366ACR1 366DPR1 366CRQ1 366PND1 366NB11 366NB21 366NB41 366NB81
IC033 (1/3) SN74HC139ANS
A B G Y0 Y1 Y2 Y3
CABLE1
CN004
SGND SGND CABLE1 V35SD+ V35SD- V35RD+ V35RD- V35ER V35RS V35ST+ V35ST- V35RT+ V35RT- V35TT+ V35TT- SGND SGND CGND SGND SGND CABLE2 V35RI V35DR 366DLO V35CS 366ACR 366DPR 366CRQ 366PND 366NB1 366NB2 366NB4 366NB8 SGND SGND CGND
R084 100k R085 100k
V35SD2+ V35SD2- V35RD2+ V35RD2- V35ER2 V35RS2 V35ST2+ V35ST2- V35RT2+ V35RT2- V35TT2+ V35TT2-
V35RI2 V35DR2 366DLO2 V35CS2 366ACR2 366DPR2 366CRQ2 366PND2 366NB12 366NB22 366NB42 366NB82
IC033 (2/3) SN74HC139ANS
CABLE2
IC033 (3/3) SN74HC139ANS
C133 0.01

**IF-542** BOARD **(5/5)**
1-671-405-11
B-NMX112-IF542NEW2

6-104 (a) (PCS-P500/P500P SERVICE MANUAL Volume 2)

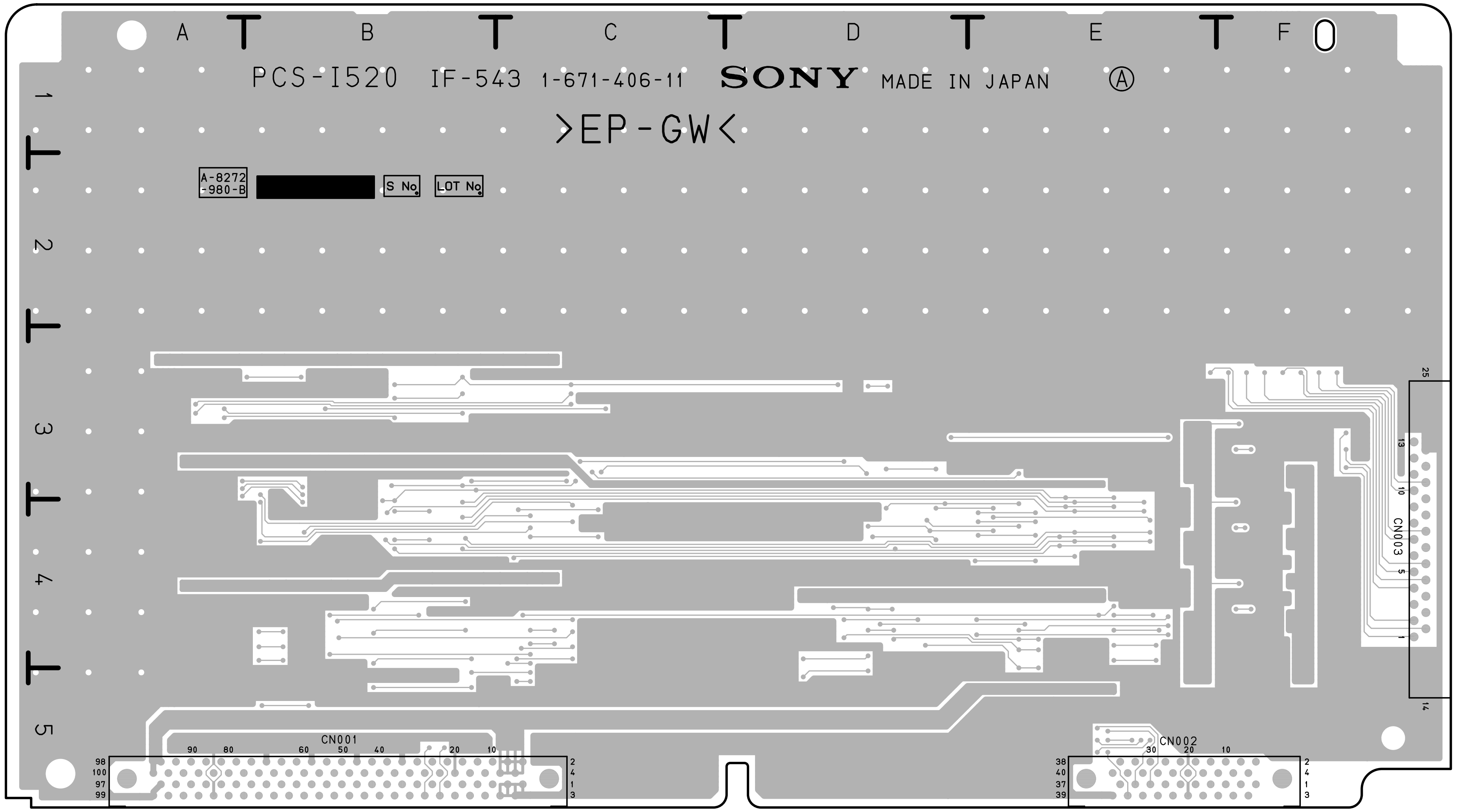
## IF-542 (5/5); V.35 INTERFACE


CN1 (1/2)
SA8 SA9 SA10 SYSCLK 0GND SA11 SA12 0RQ1 SA13 0ACK1 SA14 SA15 SA16 IOR SA17 IOW 0GND SA18 SA19 AEN I/OCHRDY SD0 SD1 SD2 SD3 SD4 SD5 SD6 SD7 RESETDRV 0GND SA20 0IR 0EN SLEEP B0IOCS5 B0MEMCS4 B0IOCS4 B0IOCS3 B0IOCS2 B0IOCS1 Reserved +5V 0GND +5V 0GND +5V 0GND +5V 0GND
IOR
IOW
SD (0..7)
RESETDRV
0IR
0EN
B0IOCST
5V
C501 47 16V
CN1 (2/2)
+5V 0GND +5V 0GND SD15 SD14 SD13 0RQ7 SD12 0ACK7 SD11 0RQ6 SD10 0ACK6 SD9 0RQ5 SD8 0GND MEMW 0ACK5 MEMR 0RQ0 LA17 0ACK0 LA18 IRQ14 LA19 IRQ1 LA20 IRQ12 0GND IRQ11 LA21 IRQ10 LA22 I/OCS16 LA23 MEMCS16 SBHE SA0 SA1 SA2 0GND BALE SA3 T/C SA4 SA5 SA6 SA7
C500 47 16V
SA (1..5)
SA1 SA2 SA3 SA4 SA5
CN2 (2/2)
12.288M 0GND NETOPINT SD1 NC RD1 NC ST1 RT1 SD2 NC RD2 NC ST2 RT2 NC NC NC NC NC
NETOPINT
VCPSD1
VCPRD1
VCPST1
VCPRT1
VCPSD2
VCPRD2
VCPST2
VCPRT2
CN2 (1/2)
NC 0GND NC NC AGND NC NC AGND NC AGND -12V NC -12V +7V NC +7V +12V NC +12V AGND
E1 E2 E3 E4
E5 E6 E7 E8
CN3
SGND SGND CABLE1 V35SD+ V35SD- V35RD+ V35RD- V35ER V35RS V35ST+ V35ST- V35RT+ V35RT- V35TT+ V35TT- SGND SGND CGND SGND SGND CABLE2 V35RI V35DR 3660LO V35CS 366ACR 3660PR 366CRQ 366PND 366NB1 366NB2 366NB4 366NB8 SGND SGND CGND
V35SD1+ V35SD1- V35RD1+ V35RD1- V35ER1 V35RS1 V35ST1+ V35ST1- V35RT1+ V35RT1- V35TT1+ V35TT1-
V35RI1 V35DR1 3660LO1 V35CS1 366ACR1 3660PR1 366CRQ1 366PND1 366NB11 366NB21 366NB41 366NB81
R82 100k
R83 100k
IC33 (1/3) SN74HC139ANS
A B G Y0 Y1 Y2 Y3
CABLE1
CN4
SGND SGND CABLE1 V35SD+ V35SD- V35RD+ V35RD- V35ER V35RS V35ST+ V35ST- V35RT+ V35RT- V35TT+ V35TT- SGND SGND CGND SGND SGND CABLE2 V35RI V35DR 3660LO V35CS 366ACR 3660PR 366CRQ 366PND 366NB1 366NB2 366NB4 366NB8 SGND SGND CGND
V35SD2+ V35SD2- V35RD2+ V35RD2- V35ER2 V35RS2 V35ST2+ V35ST2- V35RT2+ V35RT2- V35TT2+ V35TT2-
V35RI2 V35DR2 3660LO2 V35CS2 366ACR2 3660PR2 366CRQ2 366PND2 366NB12 366NB22 366NB42 366NB82
R84 100k
R85 100k
IC33 (2/3) SN74HC139ANS
CABLE2
IC33 (3/3) SN74HC139ANS
C133 0.01
1 2 3 4 5
A B C D E F G H

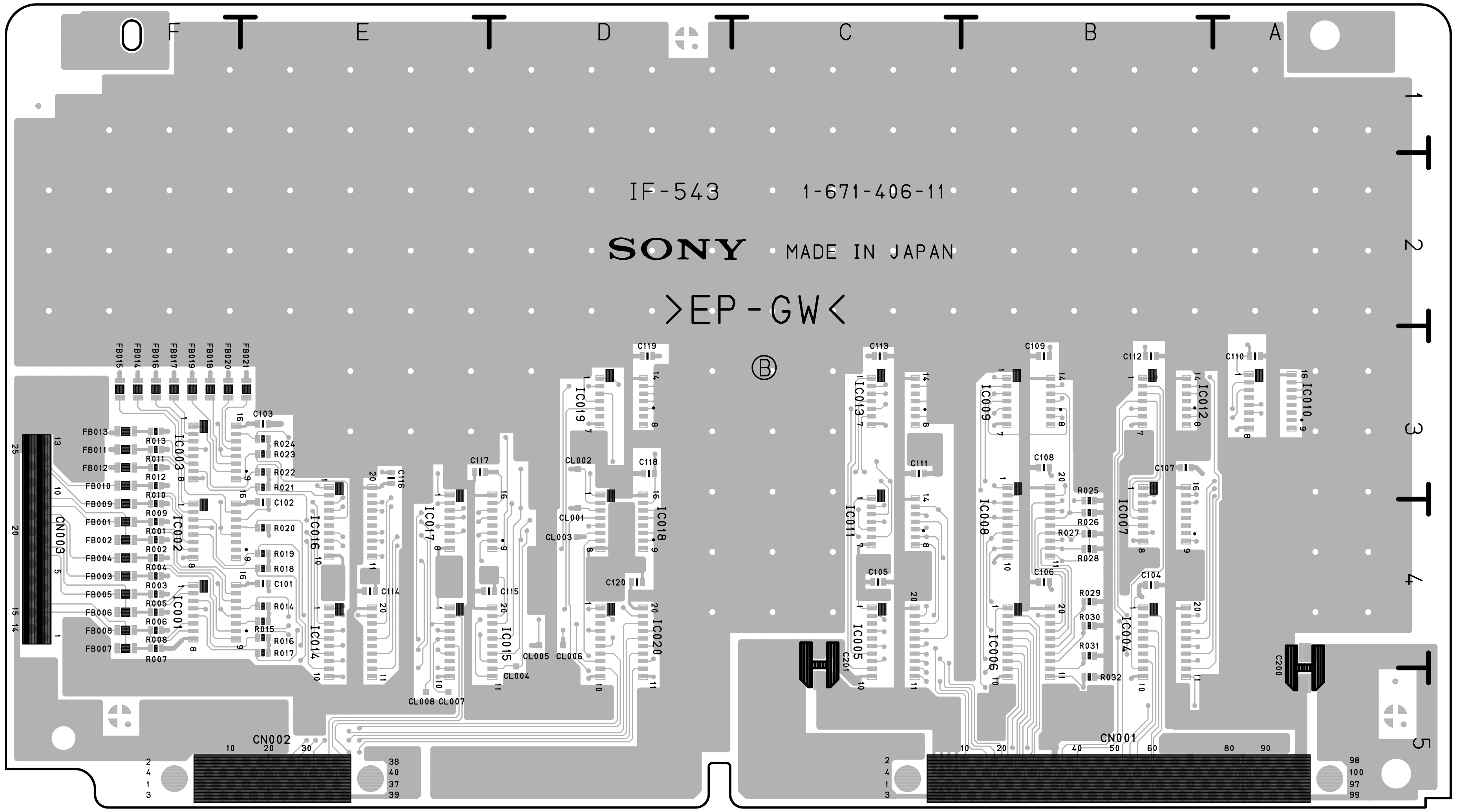
**IF-542** BOARD **(5/5)**
1-660-387-11
PCS-I500 ; #10001-

6-107
(PCS-P500/P500P SERVICE MANUAL Volume 2)

PCS-I520 (J) : SN 33001 and higher
PCS-I520 (UC) : SN 13001 and higher
PCS-I520 (CE) : SN 43001 and higher


A
B
C
D
E
F
1
2
3
4
5
PCS-I520 IF-543 1-671-406-11
SONY
MADE IN JAPAN
Ⓐ
>EP-GW<
A-8272
-980-B
S No.
LOT No.
CN001
90
80
60
50
40
20
10
98
100
97
99
2
4
1
3
CN002
30
20
10
38
40
37
39
2
4
1
3
CN003
25
13
10
5
1
14

**IF-543** **-A SIDE-**
SUFFIX: -11

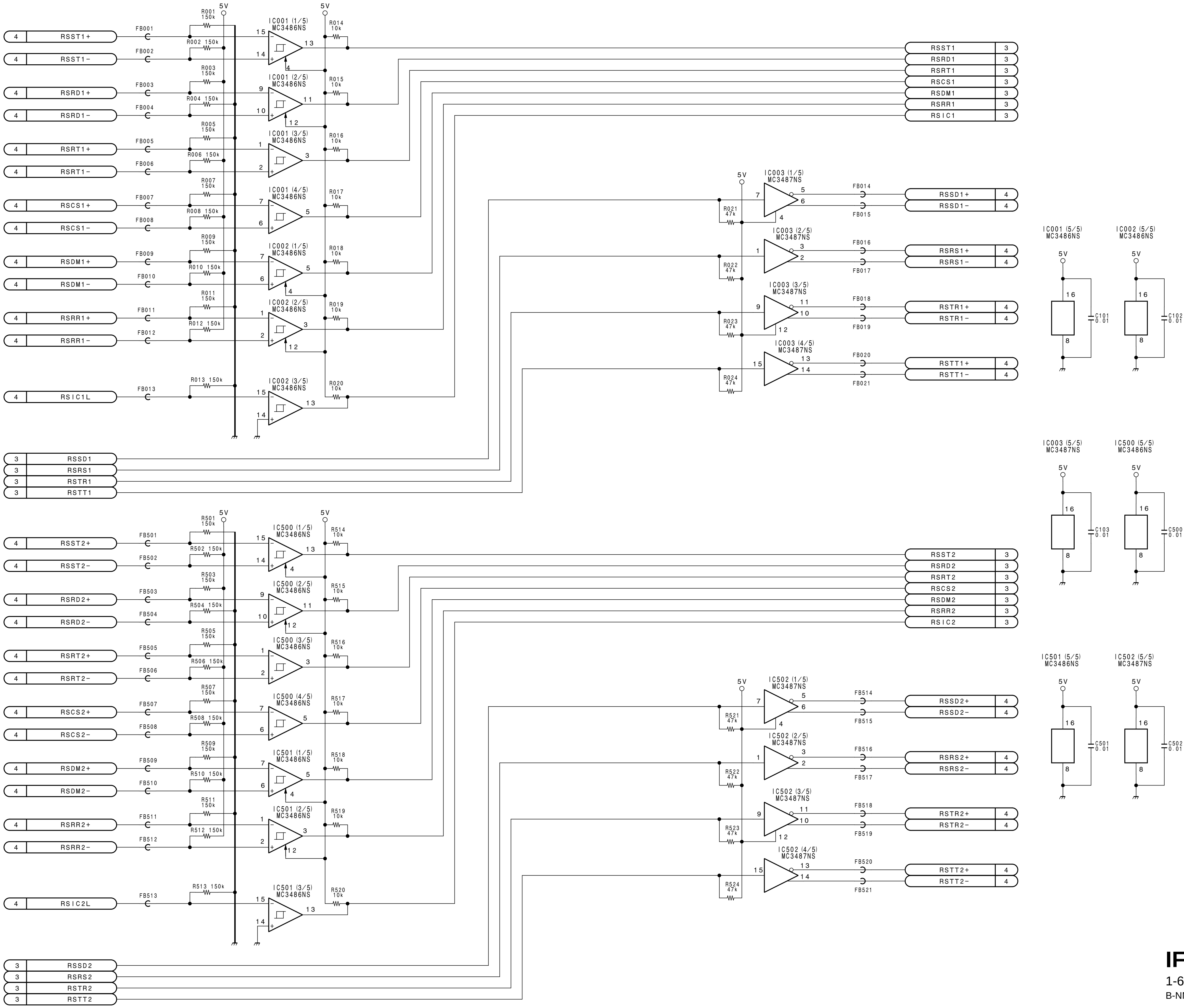

IF-543 1-671-406-11
SONY MADE IN JAPAN
>EP-GW<
A
B
C
D
E
F
1
2
3
4
5
CN001
CN002
CN003
IC001
IC002
IC003
IC004
IC005
IC006
IC007
IC008
IC009
IC010
IC011
IC012
IC013
IC014
IC015
IC016
IC017
IC018
IC019
IC020
C200

## IF-543 -B SIDE-

SUFFIX: -11

## IF-543 (1/4); RS-449 INTERFACE

| | |
|---|---|
| PCS-I520 (J) ; | S/N 33001 and higher |
| PCS-I520 (UC) ; | S/N 13001 and higher |
| PCS-I520 (CE) ; | S/N 43001 and higher |


1
2
3
4
5
RSST1+
RSST1−
RSRD1+
RSRD1−
RSRT1+
RSRT1−
RSCS1+
RSCS1−
RSDM1+
RSDM1−
RSRR1+
RSRR1−
RSIC1L
FB001
FB002
FB003
FB004
FB005
FB006
FB007
FB008
FB009
FB010
FB011
FB012
FB013
R001 150k
R002 150k
R003 150k
R004 150k
R005 150k
R006 150k
R007 150k
R008 150k
R009 150k
R010 150k
R011 150k
R012 150k
R013 150k
5V
IC001 (1/5) MC3486NS
IC001 (2/5) MC3486NS
IC001 (3/5) MC3486NS
IC001 (4/5) MC3486NS
IC002 (1/5) MC3486NS
IC002 (2/5) MC3486NS
IC002 (3/5) MC3486NS
R014 10k
R015 10k
R016 10k
R017 10k
R018 10k
R019 10k
R020 10k
RSST1
RSRD1
RSRT1
RSCS1
RSDM1
RSRR1
RSIC1
RSSD1
RSRS1
RSTR1
RSTT1
IC003 (1/5) MC3487NS
IC003 (2/5) MC3487NS
IC003 (3/5) MC3487NS
IC003 (4/5) MC3487NS
R021 47k
R022 47k
R023 47k
R024 47k
FB014
FB015
FB016
FB017
FB018
FB019
FB020
FB021
RSSD1+
RSSD1−
RSRS1+
RSRS1−
RSTR1+
RSTR1−
RSTT1+
RSTT1−
IC001 (5/5) MC3486NS
IC002 (5/5) MC3486NS
C101 0.01
C102 0.01
IC003 (5/5) MC3487NS
IC500 (5/5) MC3486NS
C103 0.01
C500 0.01
RSST2+
RSST2−
RSRD2+
RSRD2−
RSRT2+
RSRT2−
RSCS2+
RSCS2−
RSDM2+
RSDM2−
RSRR2+
RSRR2−
RSIC2L
FB501
FB502
FB503
FB504
FB505
FB506
FB507
FB508
FB509
FB510
FB511
FB512
FB513
R501 150k
R502 150k
R503 150k
R504 150k
R505 150k
R506 150k
R507 150k
R508 150k
R509 150k
R510 150k
R511 150k
R512 150k
R513 150k
IC500 (1/5) MC3486NS
IC500 (2/5) MC3486NS
IC500 (3/5) MC3486NS
IC500 (4/5) MC3486NS
IC501 (1/5) MC3486NS
IC501 (2/5) MC3486NS
IC501 (3/5) MC3486NS
R514 10k
R515 10k
R516 10k
R517 10k
R518 10k
R519 10k
R520 10k
RSST2
RSRD2
RSRT2
RSCS2
RSDM2
RSRR2
RSIC2
RSSD2
RSRS2
RSTR2
RSTT2
IC501 (5/5) MC3486NS
IC502 (5/5) MC3487NS
C501 0.01
C502 0.01
IC502 (1/5) MC3487NS
IC502 (2/5) MC3487NS
IC502 (3/5) MC3487NS
IC502 (4/5) MC3487NS
R521 47k
R522 47k
R523 47k
R524 47k
FB514
FB515
FB516
FB517
FB518
FB519
FB520
FB521
RSSD2+
RSSD2−
RSRS2+
RSRS2−
RSTR2+
RSTR2−
RSTT2+
RSTT2−
A
B
C
D
E
F
G
H

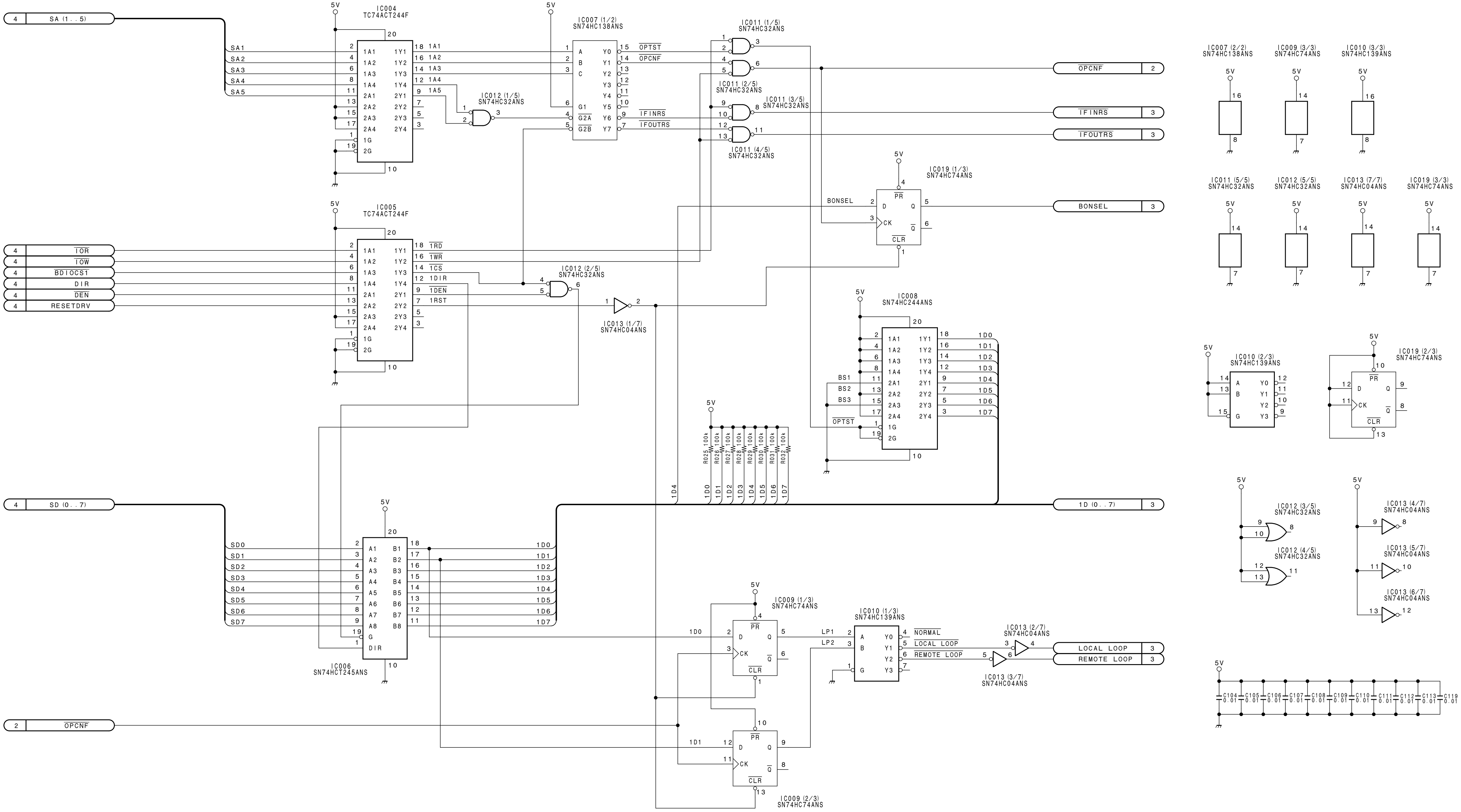
**IF-543** BOARD **(1/4)**
1-671-406-11
B-NMA038-IF543

6-110 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

IF-543 (2/4)

## IF-543 (2/4); RS-449 INTERFACE

| | |
|---|---|
| PCS-I520 (J) ; | S/N 33001 and higher |
| PCS-I520 (UC) ; | S/N 13001 and higher |
| PCS-I520 (CE) ; | S/N 43001 and higher |

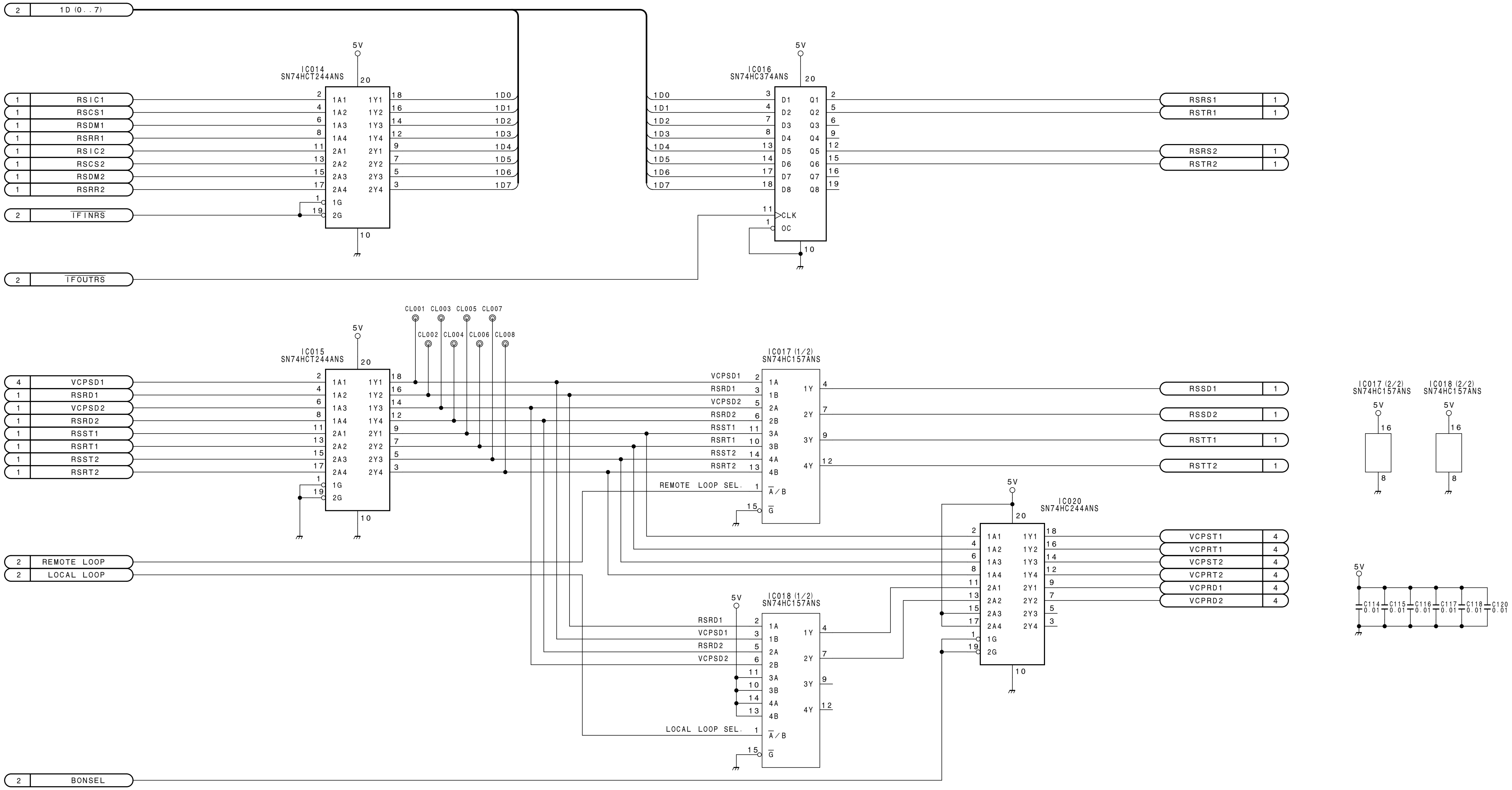

1
2
3
4
5
A
B
C
D
E
F
G
H
SA (1..5)
SA1
SA2
SA3
SA4
SA5
IC004
TC74ACT244F
IC005
TC74ACT244F
IC007 (1/2)
SN74HC138ANS
IC011 (1/5)
SN74HC32ANS
IC011 (2/5)
SN74HC32ANS
IC011 (3/5)
SN74HC32ANS
IC011 (4/5)
SN74HC32ANS
IC012 (1/5)
SN74HC32ANS
IC012 (2/5)
SN74HC32ANS
IC013 (1/7)
SN74HC04ANS
IC019 (1/3)
SN74HC74ANS
IC008
SN74HC244ANS
IC006
SN74HCT245ANS
IC009 (1/3)
SN74HC74ANS
IC009 (2/3)
SN74HC74ANS
IC010 (1/3)
SN74HC139ANS
IC013 (2/7)
SN74HC04ANS
IC013 (3/7)
SN74HC04ANS
IC007 (2/2)
SN74HC138ANS
IC009 (3/3)
SN74HC74ANS
IC010 (3/3)
SN74HC139ANS
IC011 (5/5)
SN74HC32ANS
IC012 (5/5)
SN74HC32ANS
IC013 (7/7)
SN74HC04ANS
IC019 (3/3)
SN74HC74ANS
IC010 (2/3)
SN74HC139ANS
IC019 (2/3)
SN74HC74ANS
IC012 (3/5)
SN74HC32ANS
IC012 (4/5)
SN74HC32ANS
IC013 (4/7)
SN74HC04ANS
IC013 (5/7)
SN74HC04ANS
IC013 (6/7)
SN74HC04ANS
IOR
IOW
BDIOCS1
DIR
DEN
RESETDRV
OPTST
OPCNF
IFINRS
IFOUTRS
BONSEL
1RD
1WR
1CS
1DIR
1DEN
1RST
BS1
BS2
BS3
SD (0..7)
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
1D0
1D1
1D2
1D3
1D4
1D5
1D6
1D7
1D (0..7)
R025 100k
R026 100k
R027 100k
R028 100k
R029 100k
R030 100k
R031 100k
R032 100k
LP1
LP2
NORMAL
LOCAL LOOP
REMOTE LOOP
C104 0.01
C105 0.01
C106 0.01
C107 0.01
C108 0.01
C109 0.01
C110 0.01
C111 0.01
C112 0.01
C113 0.01
C119 0.01
5V

**IF-543** BOARD **(2/4)**
1-671-406-11
B-NMA038-IF543

6-111 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-543 (3/4); RS-449 INTERFACE

| | |
|---|---|
| PCS-I520 (J) ; | S/N 33001 and higher |
| PCS-I520 (UC) ; | S/N 13001 and higher |
| PCS-I520 (CE) ; | S/N 43001 and higher |


1D (0..7)
IC014 SN74HCT244ANS
IC016 SN74HC374ANS
IC015 SN74HCT244ANS
IC017 (1/2) SN74HC157ANS
IC018 (1/2) SN74HC157ANS
IC020 SN74HC244ANS
IC017 (2/2) SN74HC157ANS
IC018 (2/2) SN74HC157ANS
5V
RSIC1
RSCS1
RSDM1
RSRR1
RSIC2
RSCS2
RSDM2
RSRR2
IFINRS
IFOUTRS
RSRS1
RSTR1
RSRS2
RSTR2
CL001 CL003 CL005 CL007
CL002 CL004 CL006 CL008
VCPSD1
RSRD1
VCPSD2
RSRD2
RSST1
RSRT1
RSST2
RSRT2
REMOTE LOOP SEL.
LOCAL LOOP SEL.
REMOTE LOOP
LOCAL LOOP
BONSEL
RSSD1
RSSD2
RSTT1
RSTT2
VCPST1
VCPRT1
VCPST2
VCPRT2
VCPRD1
VCPRD2
C114 0.01
C115 0.01
C116 0.01
C117 0.01
C118 0.01
C120 0.01

1
2
3
4
5

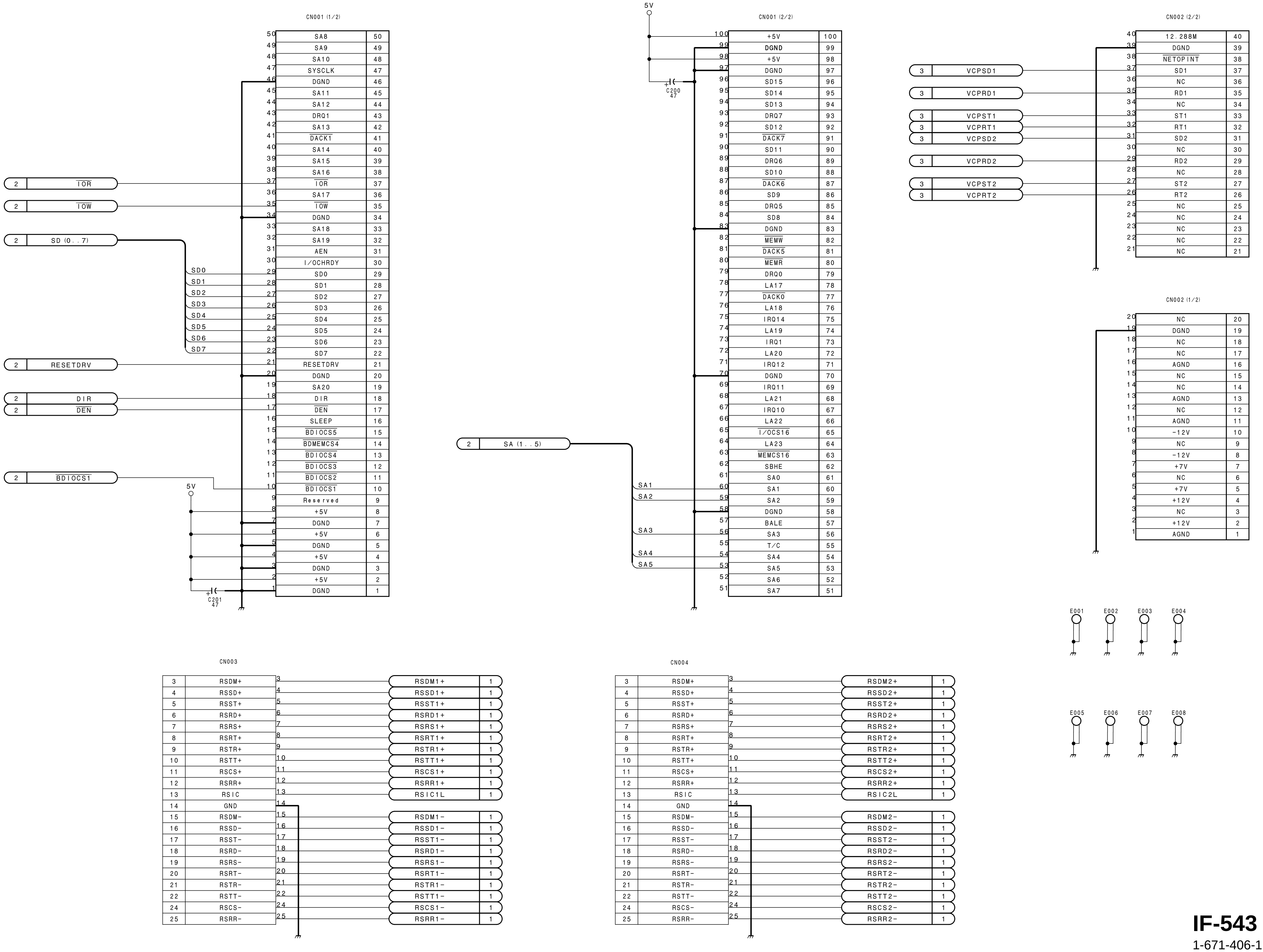
**IF-543** BOARD **(3/4)**
1-671-406-11
B-NMA038-IF543

6-112 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

A B C D E F G H

PCS-I520 (J) ;     S/N 33001 and higher
PCS-I520 (UC) ;  S/N 13001 and higher
PCS-I520 (CE) ;  S/N 43001 and higher

## IF-543 (4/4); RS-449 INTERFACE


CN001 (1/2)
SA8
SA9
SA10
SYSCLK
DGND
SA11
SA12
DRQ1
SA13
DACK1
SA14
SA15
SA16
IOR
SA17
IOW
DGND
SA18
SA19
AEN
I/OCHRDY
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
RESETDRV
DGND
SA20
DIR
DEN
SLEEP
BDIOCS5
BDMEMCS4
BDIOCS4
BDIOCS3
BDIOCS2
BDIOCS1
Reserved
+5V
DGND
SD (0..7)
5V
C201
47
CN001 (2/2)
+5V
DGND
SD15
SD14
SD13
DRQ7
SD12
DACK7
SD11
DRQ6
SD10
DACK6
SD9
DRQ5
SD8
MEMW
DACK5
MEMR
DRQ0
LA17
DACK0
LA18
IRQ14
LA19
IRQ1
LA20
IRQ12
IRQ11
LA21
IRQ10
LA22
I/OCS16
LA23
MEMCS16
SBHE
SA0
SA1
SA2
BALE
SA3
T/C
SA4
SA5
SA6
SA7
SA (1..5)
C200
47
CN002 (2/2)
12.288M
DGND
NETOPINT
SD1
NC
RD1
ST1
RT1
SD2
RD2
ST2
RT2
VCPSD1
VCPRD1
VCPST1
VCPRT1
VCPSD2
VCPRD2
VCPST2
VCPRT2
CN002 (1/2)
NC
DGND
AGND
-12V
+7V
+12V
E001
E002
E003
E004
E005
E006
E007
E008
CN003
RSDM+
RSSD+
RSST+
RSRD+
RSRS+
RSRT+
RSTR+
RSTT+
RSCS+
RSRR+
RSIC
GND
RSDM-
RSSD-
RSST-
RSRD-
RSRS-
RSRT-
RSTR-
RSTT-
RSCS-
RSRR-
RSDM1+
RSSD1+
RSST1+
RSRD1+
RSRS1+
RSRT1+
RSTR1+
RSTT1+
RSCS1+
RSRR1+
RSIC1L
RSDM1-
RSSD1-
RSST1-
RSRD1-
RSRS1-
RSRT1-
RSTR1-
RSTT1-
RSCS1-
RSRR1-
CN004
RSDM2+
RSSD2+
RSST2+
RSRD2+
RSRS2+
RSRT2+
RSTR2+
RSTT2+
RSCS2+
RSRR2+
RSIC2L
RSDM2-
RSSD2-
RSST2-
RSRD2-
RSRS2-
RSRT2-
RSTR2-
RSTT2-
RSCS2-
RSRR2-

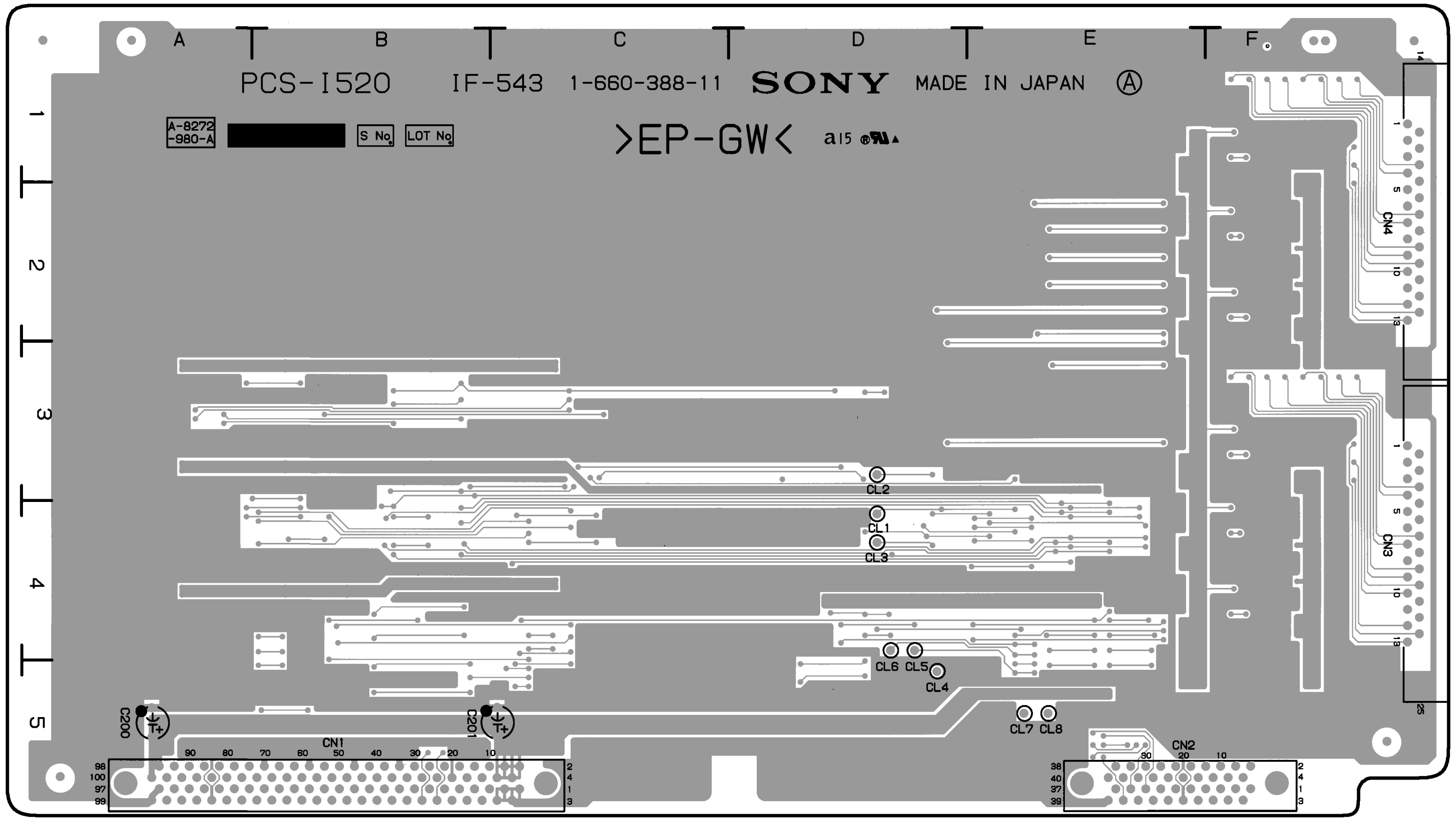
**IF-543** BOARD **(4/4)**
1-671-406-11
B-NMA038-IF543

## IF-543 ; RS-449 INTERFACE

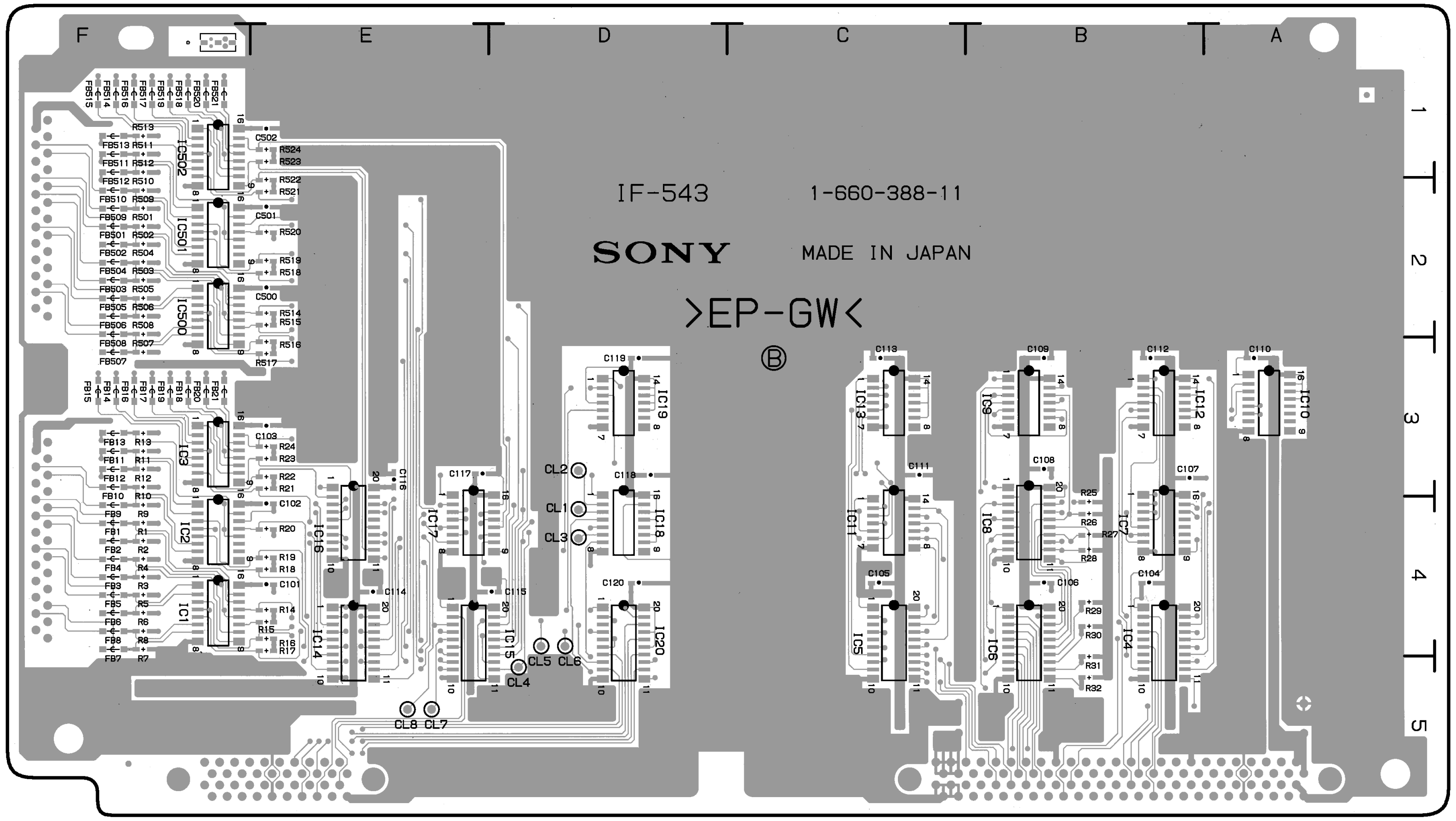
IF-543 (1-660-388-11)

*:B SDIE

| | |
|---|---|
| CN1 | C-5 |
| CN2 | F-5 |
| CN3 | F-4 |
| FB1 | *F-4 |
| FB2 | *F-4 |
| FB3 | *F-4 |
| FB4 | *F-4 |
| FB5 | *F-4 |
| FB6 | *F-4 |
| FB7 | *F-4 |
| FB8 | *F-4 |
| FB9 | *F-4 |
| FB10 | *F-3 |
| FB11 | *F-3 |
| FB12 | *F-3 |
| FB13 | *F-3 |
| FB14 | *F-3 |
| FB15 | *F-3 |
| FB16 | *F-3 |
| FB17 | *F-3 |
| FB18 | *F-3 |
| FB19 | *F-3 |
| FB20 | *F-3 |
| FB21 | *F-3 |
| IC1 | *F-4 |
| IC2 | *F-4 |
| IC3 | *F-3 |
| IC4 | *B-4 |
| IC5 | *C-4 |
| IC6 | *B-4 |
| IC7 | *B-4 |
| IC8 | *B-4 |
| IC9 | *B-3 |
| IC10 | *A-3 |
| IC11 | *C-4 |
| IC12 | *B-3 |
| IC13 | *C-3 |
| IC14 | *E-4 |
| IC15 | *E-4 |
| IC16 | *E-4 |
| IC17 | *E-4 |
| IC18 | *D-4 |
| IC19 | *D-3 |
| IC20 | *D-4 |

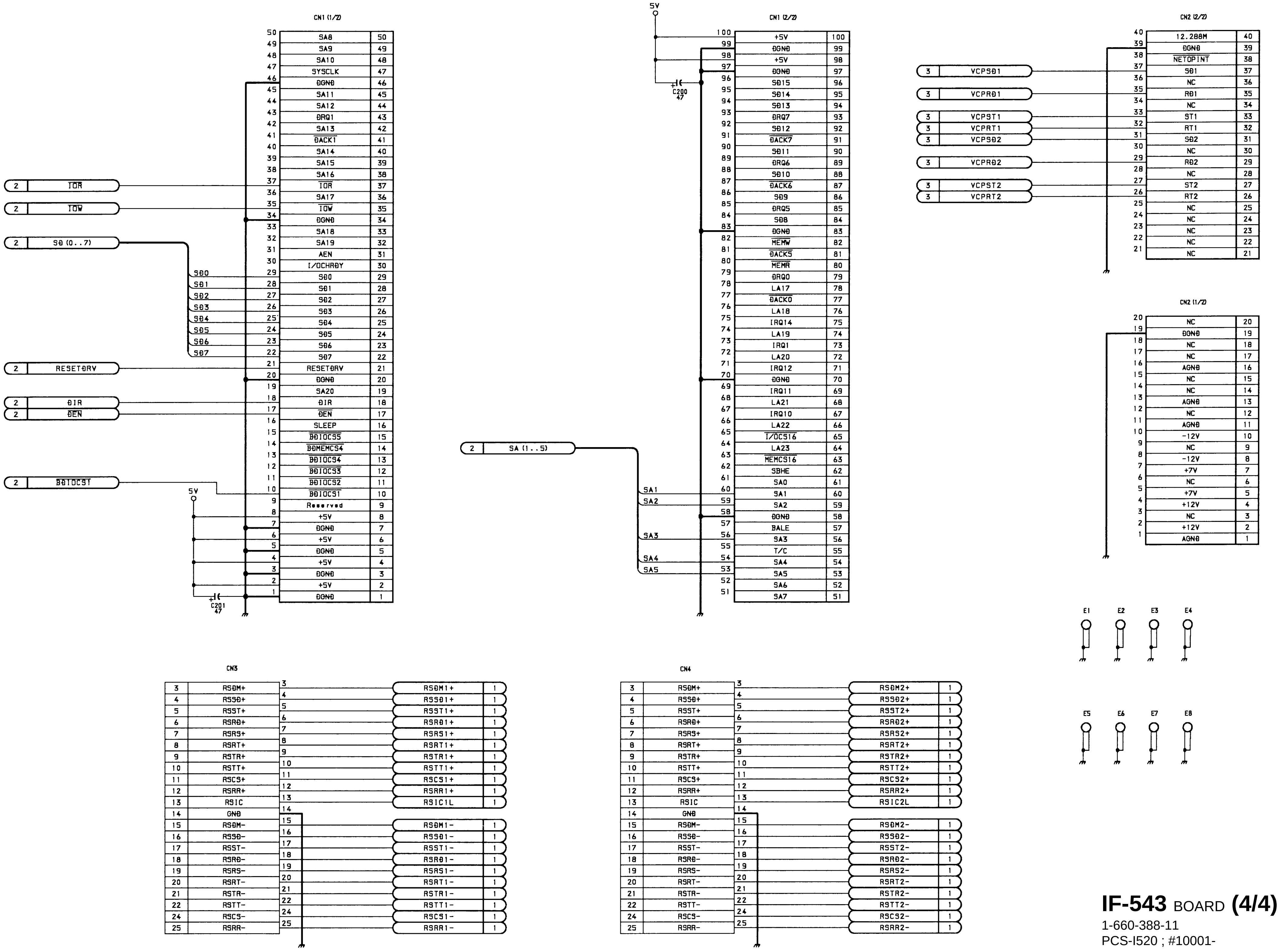

A
B
C
D
E
F
1
2
3
4
5
PCS-I520
IF-543
1-660-388-11
SONY
MADE IN JAPAN
A-8272
-980-A
S No.
LOT No.
>EP-GW<
CN1
CN2
CN3
CN4
C200
C201
CL1
CL2
CL3
CL4
CL5
CL6
CL7
CL8

**IF-543** -A SIDE-
1-660-388-11
PCS-I520 ; #10001-


F
E
D
C
B
A
1
2
3
4
5
IF-543
1-660-388-11
SONY
MADE IN JAPAN
>EP-GW<
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
IC15
IC16
IC17
IC18
IC19
IC20
IC500
IC501
IC502
CL1
CL2
CL3
CL4
CL5
CL6
CL7
CL8

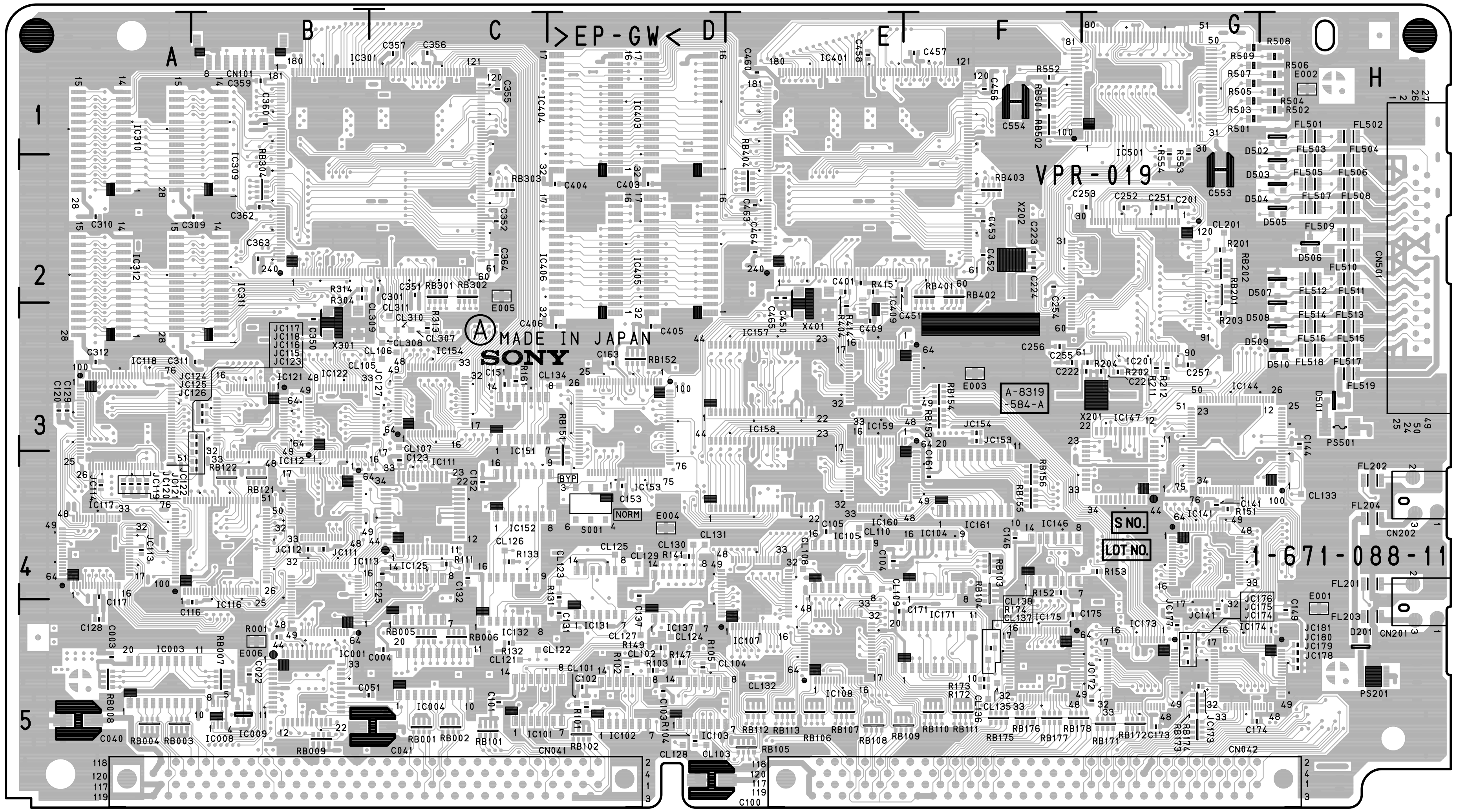
**IF-543** -B SIDE-
1-660-388-11
PCS-I520 ; #10001-

## IF-543 (4/4); RS-449 INTERFACE


CN1 (1/2)
CN1 (2/2)
CN2 (2/2)
CN2 (1/2)
CN3
CN4
IOR
IOW
SD (0..7)
SD0
SD1
SD2
SD3
SD4
SD5
SD6
SD7
RESETDRV
DIR
DEN
B0IOCST
SA (1..5)
SA1
SA2
SA3
SA4
SA5
5V
C201 47
C200 47
VCPSD1
VCPRD1
VCPST1
VCPRT1
VCPSD2
VCPRD2
VCPST2
VCPRT2
SA8
SA9
SA10
SYSCLK
DGND
SA11
SA12
DRQ1
SA13
DACK1
SA14
SA15
SA16
SA17
SA18
SA19
AEN
I/OCHRDY
SLEEP
B0IOCS5
B0MEMCS4
B0IOCS4
B0IOCS3
B0IOCS2
B0IOCS1
Reserved
+5V
SD15
SD14
SD13
DRQ7
SD12
DACK7
SD11
DRQ6
SD10
DACK6
SD9
DRQ5
SD8
MEMW
DACK5
MEMR
DRQ0
LA17
DACK0
LA18
IRQ14
LA19
IRQ1
LA20
IRQ12
IRQ11
LA21
IRQ10
LA22
I/OCS16
LA23
MEMCS16
SBHE
SA0
BALE
T/C
SA6
SA7
12.288M
NETOPINT
SD1
RD1
ST1
RT1
SD2
RD2
ST2
RT2
NC
AGND
-12V
+7V
+12V
RSDM+
RSSD+
RSST+
RSRD+
RSRS+
RSRT+
RSTR+
RSTT+
RSCS+
RSRR+
RSIC
GND
RSDM-
RSSD-
RSST-
RSRD-
RSRS-
RSRT-
RSTR-
RSTT-
RSCS-
RSRR-
RSDM1+
RSSD1+
RSST1+
RSRD1+
RSRS1+
RSRT1+
RSTR1+
RSTT1+
RSCS1+
RSRR1+
RSIC1L
RSDM1-
RSSD1-
RSST1-
RSRD1-
RSRS1-
RSRT1-
RSTR1-
RSTT1-
RSCS1-
RSRR1-
RSDM2+
RSSD2+
RSST2+
RSRD2+
RSRS2+
RSRT2+
RSTR2+
RSTT2+
RSCS2+
RSRR2+
RSIC2L
RSDM2-
RSSD2-
RSST2-
RSRD2-
RSRS2-
RSRT2-
RSTR2-
RSTT2-
RSCS2-
RSRR2-
E1
E2
E3
E4
E5
E6
E7
E8

**IF-543** BOARD **(4/4)**
1-660-388-11
PCS-I520 ; #10001-

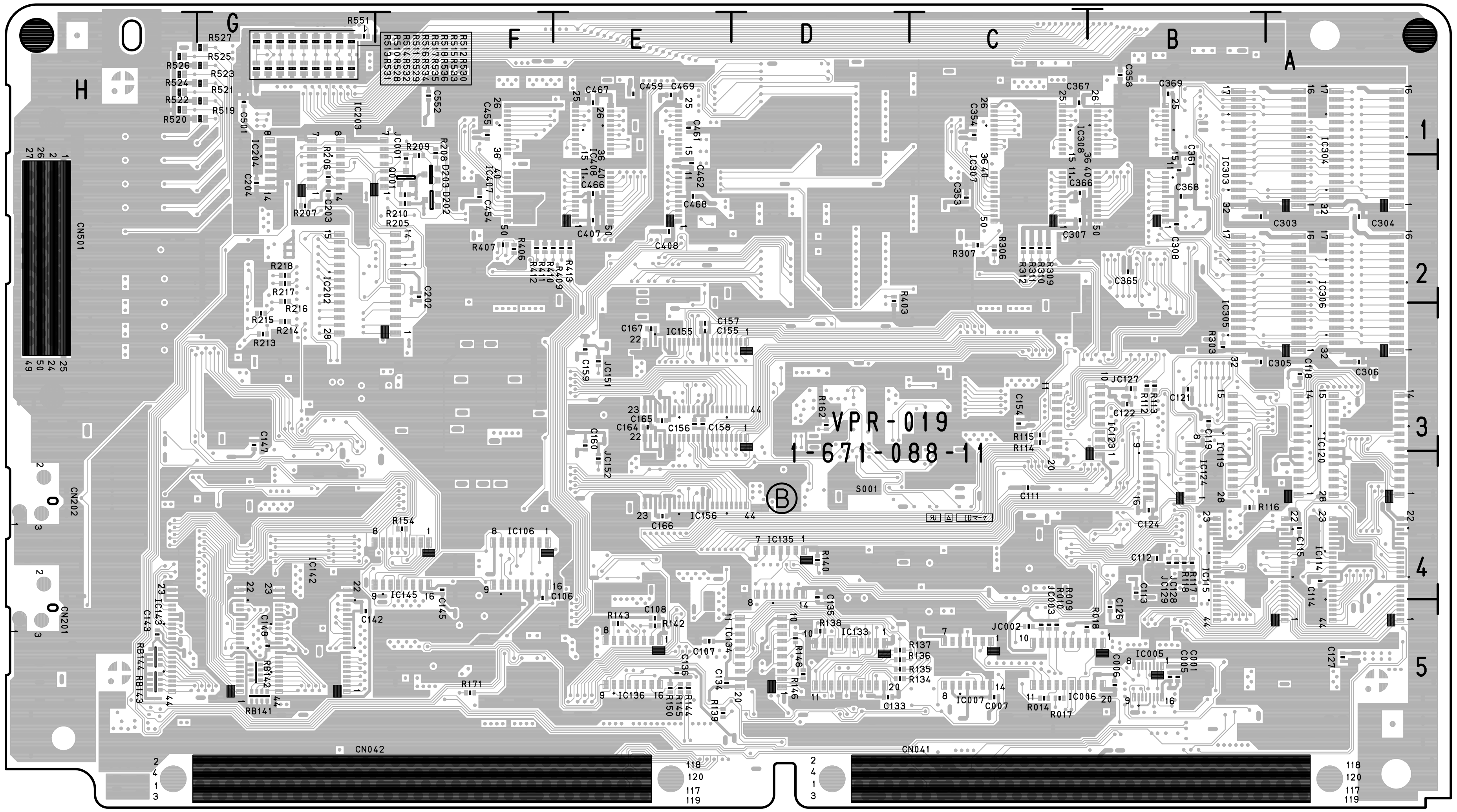
PCS-P500 (J) : SN 63001 and higher
PCS-P500 (UC) : SN 23001 and higher
PCS-P500P (CE) : SN 53001 and higher


VPR-019
A
B
C
D
E
F
G
H
1
2
3
4
5
>EP-GW<
MADE IN JAPAN
SONY
A-8319
-584-A
S NO.
LOT NO.
1-671-088-11

**VPR-019B** -A SIDE-

SUFFIX: -11

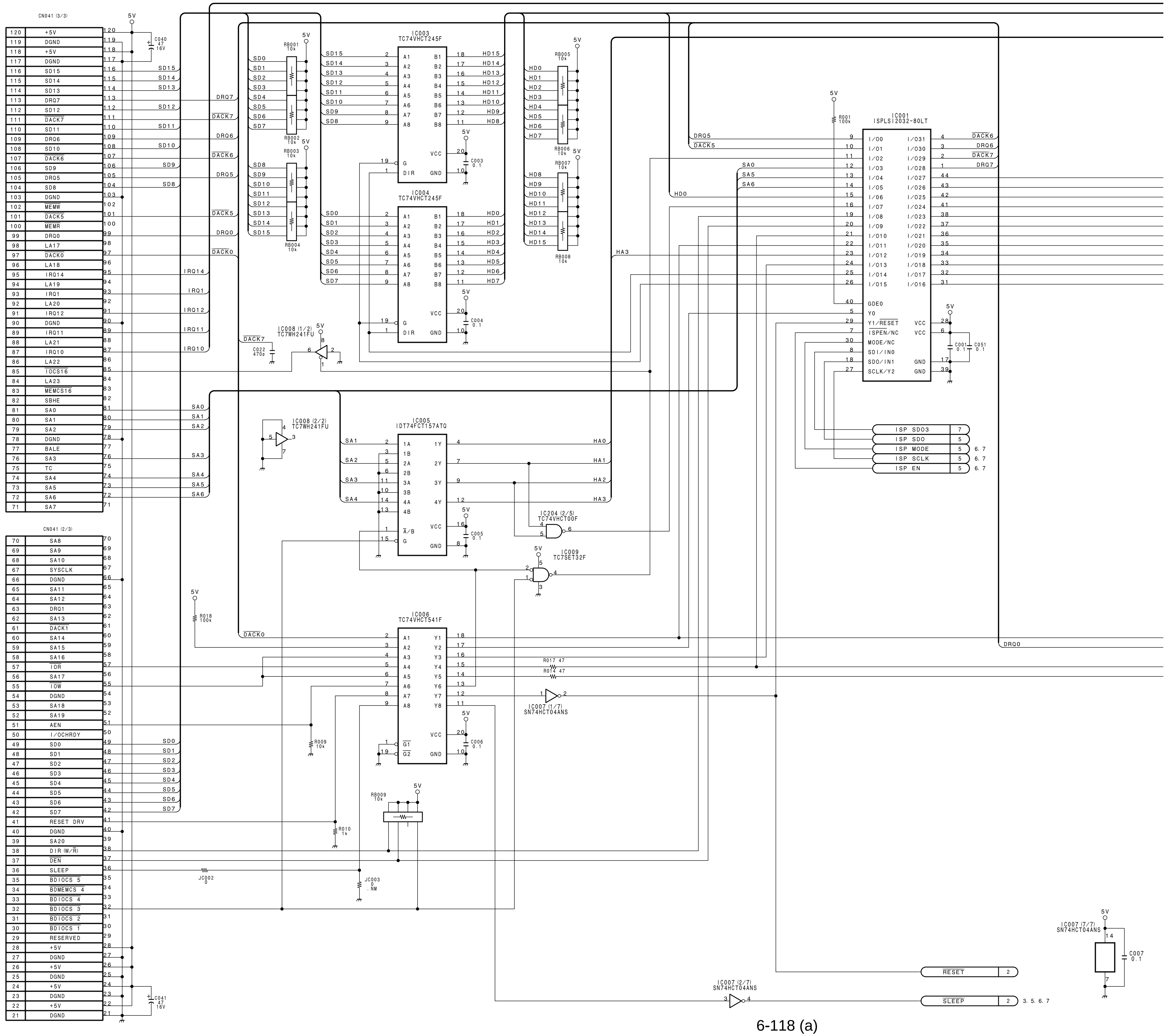
http://getMANUAL.com


H
G
F
E
D
C
B
A
1
2
3
4
5
VPR-019
1-671-088-11
B
CN501
CN202
CN201
CN042
CN041
S001
IC202
IC203
IC204
IC106
IC135
IC136
IC142
IC143
IC145
IC151
IC152
IC155
IC156
IC303
IC304
IC305
IC306
IC307
IC308
IC407
IC408
IC114
IC115
IC119
IC120
IC123
IC124
IC127
IC128
IC133
IC134
IC002
IC005
IC006
IC007

**VPR-019B** -B SIDE-

SUFFIX: -11

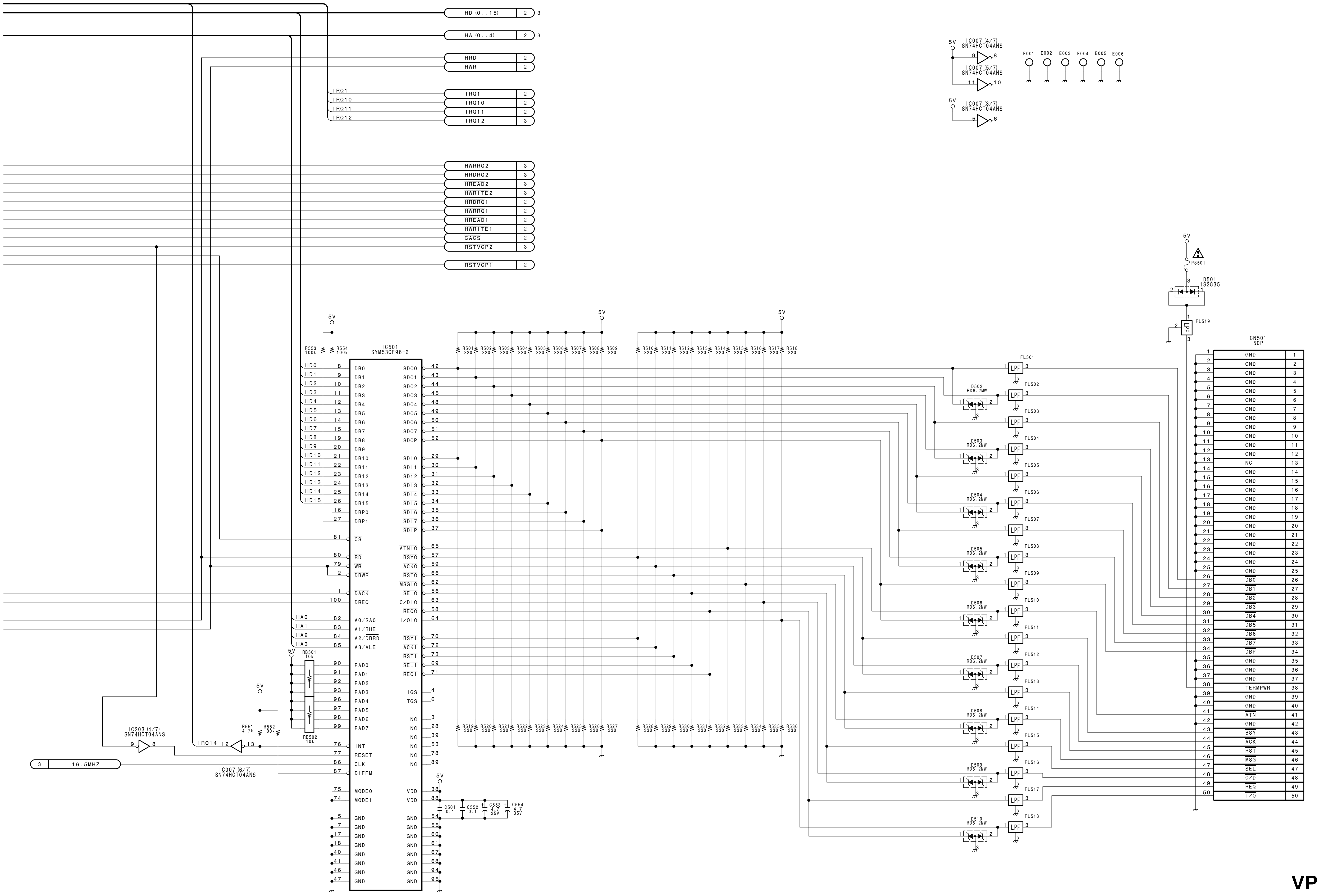
## VPR-019B (1/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE


1
2
3
4
5
CN041 (3/3)
CN041 (2/3)
5V
C040 47 16V
C041 47 16V
RB001 10k
RB002 10k
RB003 10k
RB004 10k
RB005 10k
RB006 10k
RB007 10k
RB008 10k
RB009 10k
IC003 TC74VHCT245F
IC004 TC74VHCT245F
IC005 IDT74FCT157ATQ
IC006 TC74VHCT541F
IC008 (1/2) TC7WH241FU
IC008 (2/2) TC7WH241FU
IC204 (2/5) TC74VHCT00F
IC009 TC7SET32F
IC007 (1/7) SN74HCT04ANS
IC007 (2/7) SN74HCT04ANS
IC007 (7/7) SN74HCT04ANS
IC001 ISPLSI2032-80LT
R001 100k
R018 100k
R009 10k
R010 1k
R017 47
R014 47
C003 0.1
C004 0.1
C005 0.1
C006 0.1
C001 0.1
C051 0.1
C007 0.1
C022 470p
JC002 0
JC003 0 NM
ISP SDO3
ISP SDO
ISP MODE
ISP SCLK
ISP EN
6. 7
RESET
SLEEP
3. 5. 6. 7
DRQ0
DACK0
HA0
HA1
HA2
HA3
HD0
SA0
SA5
SA6
DRQ5
DACK5
DACK6
DRQ6
DACK7
DRQ7

A
B
C
D
E
F
G
H

VPR-019B (1/8)

PCS-P500 (J) ; S/N 63001 and higher
PCS-P500 (UC) ; S/N 23001 and higher
PCS-P500P (CE) ; S/N 53001 and higher

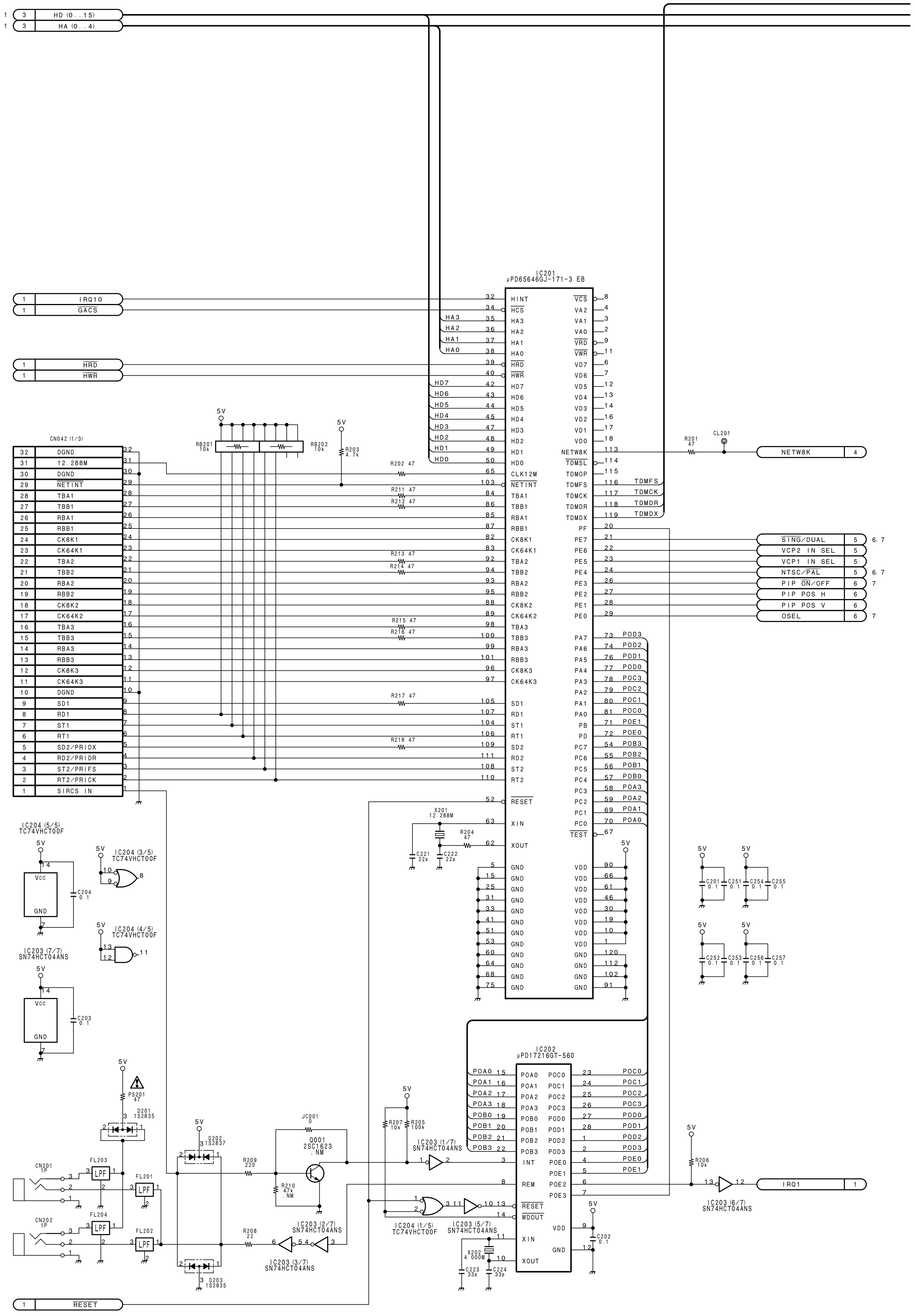

HD(0..15)
HA(0..4)
HRD
HWR
IRQ1
IRQ10
IRQ11
IRQ12
HWRRQ2
HRDRQ2
HREAD2
HWRITE2
HRDRQ1
HWRRQ1
HREAD1
HWRITE1
GACS
RSTVCP2
RSTVCP1
IC007 (4/7) SN74HCT04ANS
IC007 (5/7) SN74HCT04ANS
IC007 (3/7) SN74HCT04ANS
E001 E002 E003 E004 E005 E006
IC501 SYM53CF96-2
IC203 (4/7) SN74HCT04ANS
IC007 (6/7) SN74HCT04ANS
16.5MHZ
IRQ14
PS501
D501 1SS235
FL519
CN501 50P
FL501 … FL518
D502 … D510 RD6.2MW
R501–R518 220
R519–R536 330
R551 4.7k
R552 100k
R553 100k
R554 100k
RB501 10k
RB502 10k
C501 0.1
C552 0.1
C553 4.7 35V
C554 4.7 35V
5V
TERMPWR
1 2 3 4 5
I J K L M N O P

## VPR-019B BOARD (1/8)

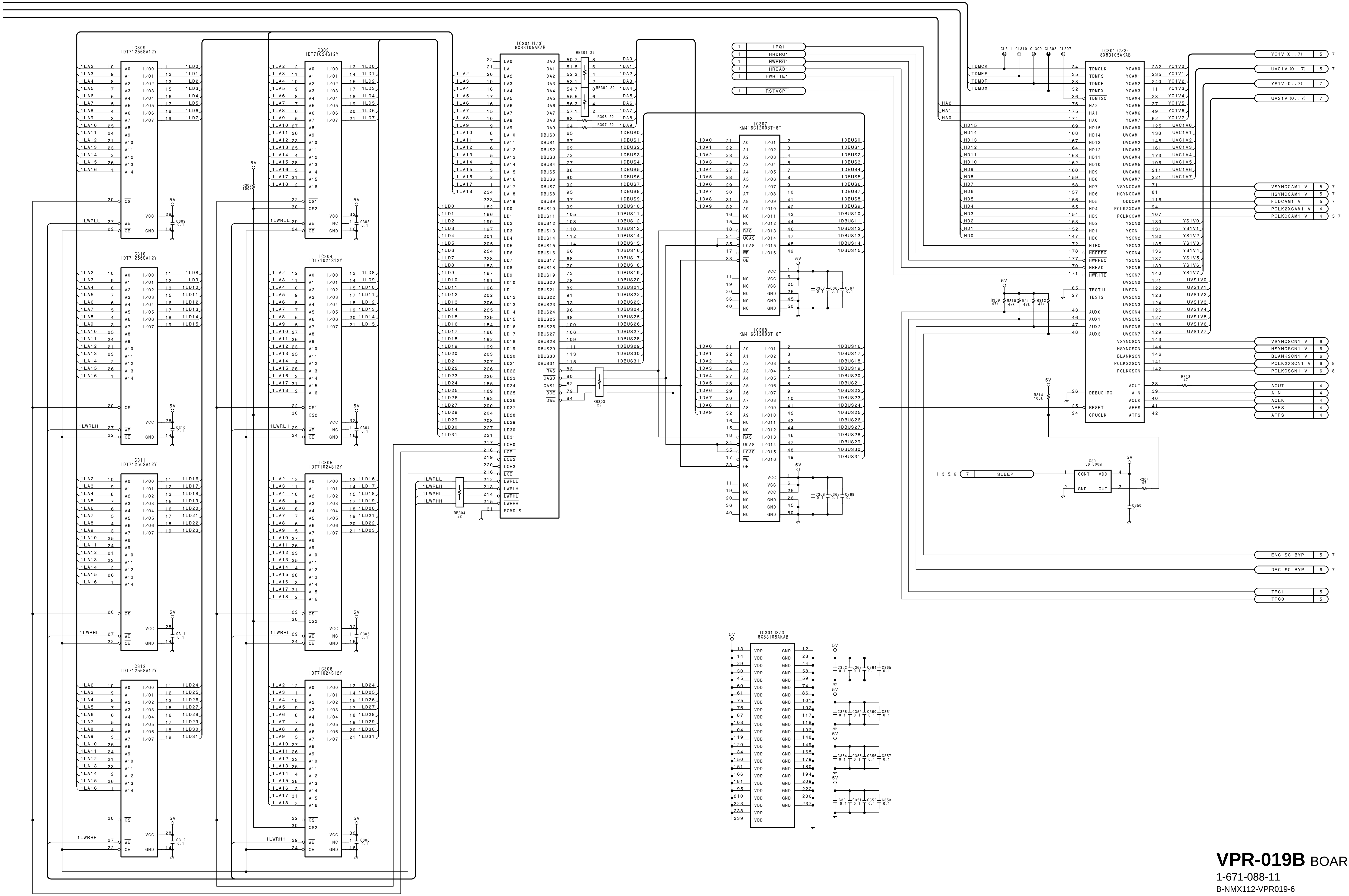
1-671-088-11
B-NMX112-VPR019-6

6-119 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## VPR-019B (2/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE


HD (0 . . 15)
HA (0 . . 4)
IRQ10
GACS
HRD
HWR
IC201
μPD65646GJ-171-3 EB
CN042 (1/3)
DGND
12.288M
NETINT
TBA1
TBB1
RBA1
RBB1
CK8K1
CK64K1
TBA2
TBB2
RBA2
RBB2
CK8K2
CK64K2
TBA3
TBB3
RBA3
RBB3
CK8K3
CK64K3
SD1
RD1
ST1
RT1
SD2/PRIDX
RD2/PRIDR
ST2/PRIFS
RT2/PRICK
SIRCS IN
NETW8K
SING/DUAL
VCP2 IN SEL
VCP1 IN SEL
NTSC/PAL
PIP ON/OFF
PIP POS H
PIP POS V
OSEL
TDMFS
TDMCK
TDMDR
TDMDX
X201 12.288M
IC202
μPD17216GT-560
IC204 (5/5) TC74VHCT00F
IC204 (3/5) TC74VHCT00F
IC204 (4/5) TC74VHCT00F
IC203 (7/7) SN74HCT04ANS
IC203 (1/7) SN74HCT04ANS
IC203 (2/7) SN74HCT04ANS
IC203 (3/7) SN74HCT04ANS
IC203 (5/7) SN74HCT04ANS
IC203 (6/7) SN74HCT04ANS
IC204 (1/5) TC74VHCT00F
Q201 2SC1623
D201 1SS835
D202 1SS837
D203 1SS835
PS201
FL201
FL202
FL203
FL204
LPF
CN201
CN202
X202 4.000M
IRQ1
RESET
5V

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |



IC309 IDT71256SA12Y
IC310 IDT71256SA12Y
IC311 IDT71256SA12Y
IC312 IDT71256SA12Y
IC303 IDT71024S12Y
IC304 IDT71024S12Y
IC305 IDT71024S12Y
IC306 IDT71024S12Y
IC301 (1/3) 8X83105AKAB
IC301 (2/3) 8X83105AKAB
IC301 (3/3) 8X83105AKAB
IC307 KM416C1200BT-6T
IC308 KM416C1200BT-6T
RB301 22
RB302 22
RB303 22
RB304 22
IRQ11
HRDRQ1
HWRRQ1
HREAD1
HWRITE1
RSTVCP1
YC1V (0..7)
UVC1V (0..7)
YS1V (0..7)
UVS1V (0..7)
VSYNCCAM1 V
HSYNCCAM1 V
FLDCAM1 V
PCLK2XCAM1 V
PCLKQCAM1 V
VSYNCSCN1 V
HSYNCSCN1 V
BLANKSCN1 V
PCLK2XSCN1 V
PCLKQSCN1 V
AOUT
AIN
ACLK
ARFS
ATFS
SLEEP
X351 36.000M
ENC SC BYP
DEC SC BYP
TFC1
TFC0
5V

1
2
3
4
5

**VPR-019B** BOARD **(2/8)**

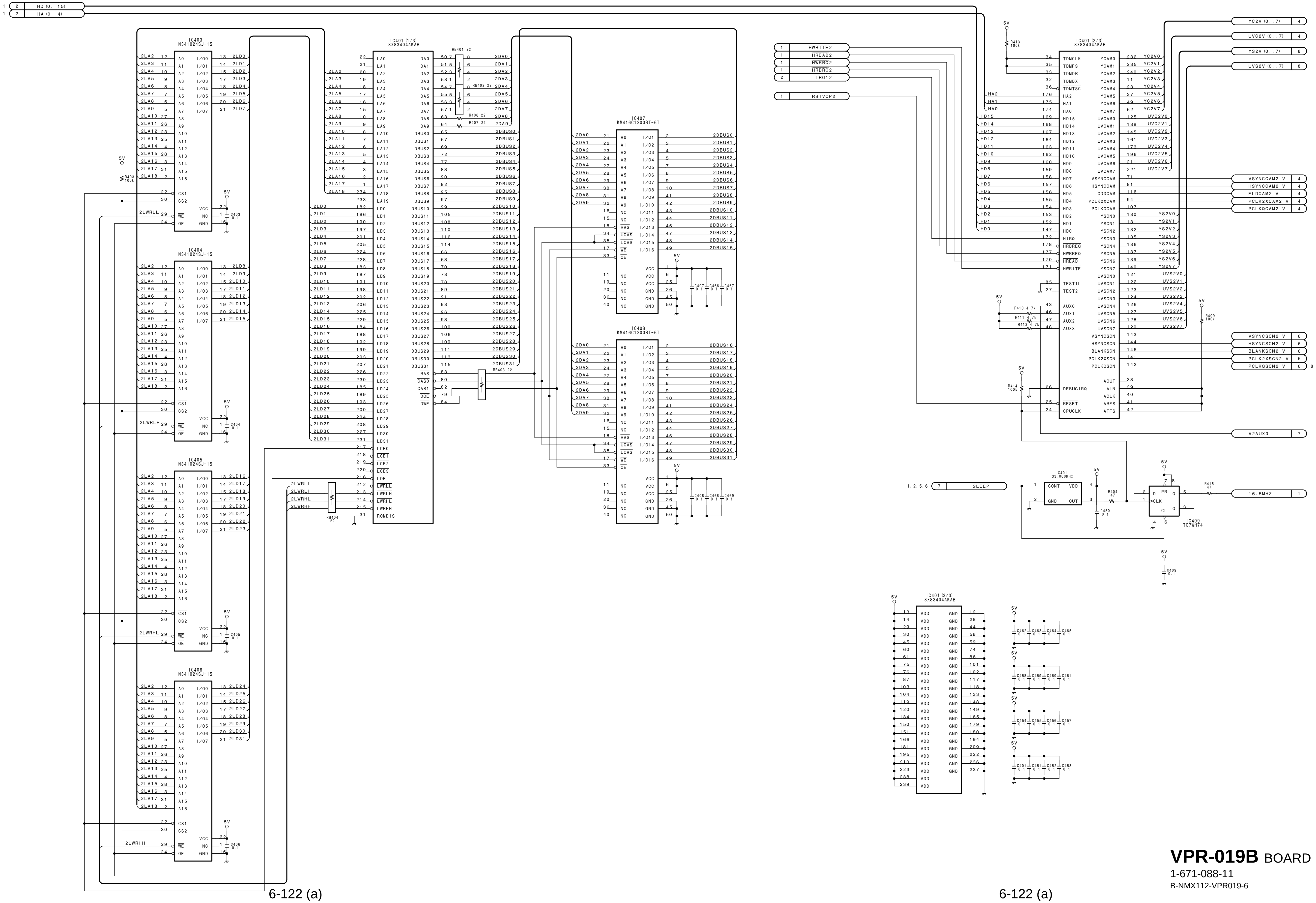
1-671-088-11

B-NMX112-VPR019-6

I J K L M N O P

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

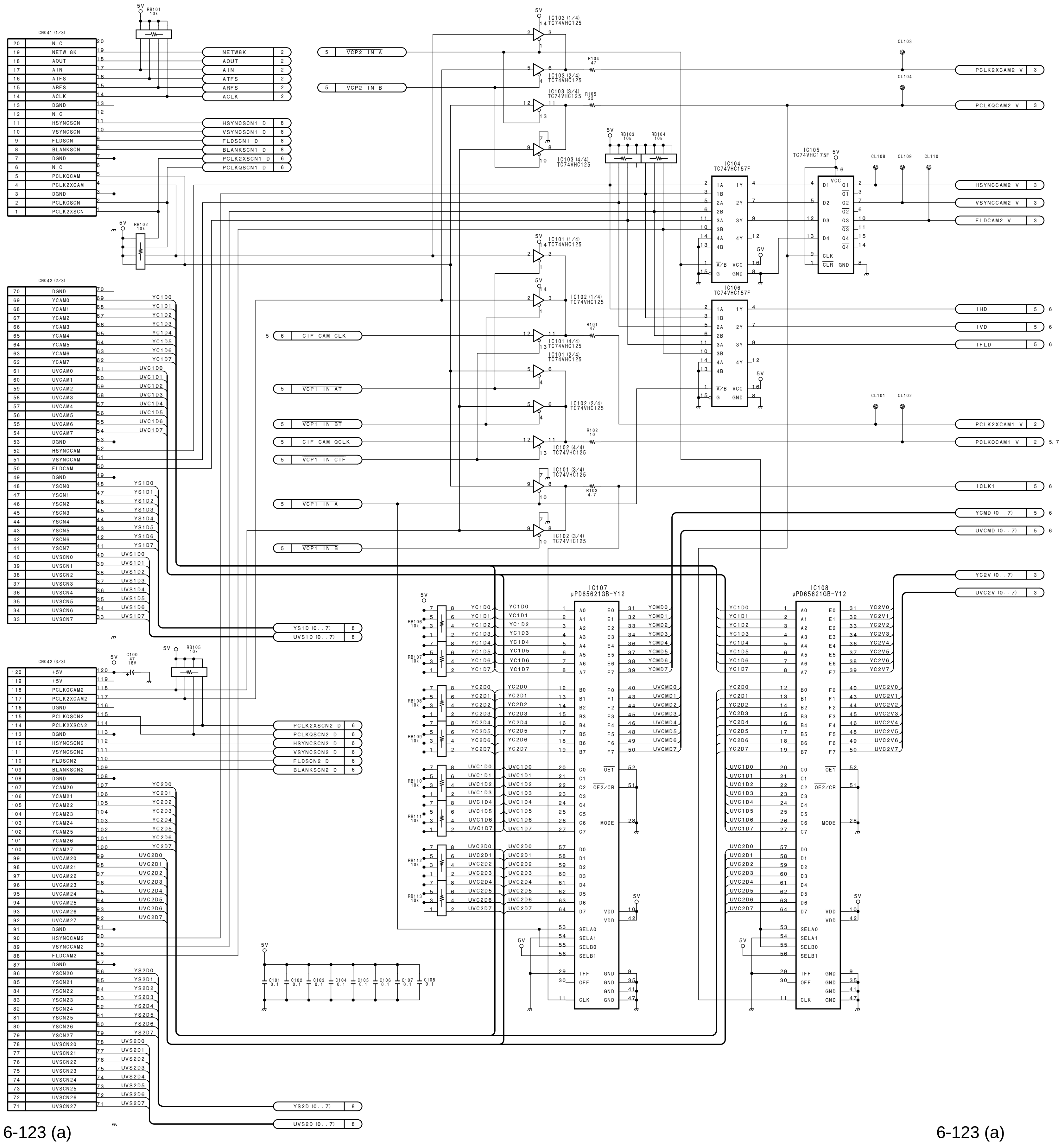
## VPR-019B (3/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE


HD (0..15)
HA (0..4)
IC403 N341024SJ-15
IC404 N341024SJ-15
IC405 N341024SJ-15
IC406 N341024SJ-15
IC401 (1/3) 8X83404AKAB
IC407 KM416C1200BT-6T
IC408 KM416C1200BT-6T
IC401 (2/3) 8X83404AKAB
IC401 (3/3) 8X83404AKAB
IC409 TC7WH74
X401 33.000MHz
HWRITE2
HREAD2
HWRRQ2
HRDRQ2
IRQ12
RSTVCP2
YC2V (0..7)
UVC2V (0..7)
YS2V (0..7)
UVS2V (0..7)
VSYNCCAM2 V
HSYNCCAM2 V
FLDCAM2 V
PCLK2XCAM2 V
PCLKGCAM2 V
VSYNCSCN2 V
HSYNCSCN2 V
BLANKSCN2 V
PCLK2XSCN2 V
PCLKGSCN2 V
V2AUX0
SLEEP
16.5MHZ
1
2
3
4
5
A
B
C
D
E
F
G
H

**VPR-019B** BOARD **(3/8)**
1-671-088-11
B-NMX112-VPR019-6

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## VPR-019B (4/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE


CN041 (1/3)
NETW BK
AOUT
AIN
ATFS
ARFS
ACLK
DGND
N.C
HSYNCSCN
VSYNCSCN
FLDSCN
BLANKSCN
PCLKQCAM
PCLK2XCAM
PCLKQSCN
PCLK2XSCN
RB101 10k
RB102 10k
NETWBK
HSYNCSCN1 D
VSYNCSCN1 D
FLDSCN1 D
BLANKSCN1 D
PCLK2XSCN1 D
PCLKQSCN1 D
CN042 (2/3)
YCAM0
YCAM7
UVCAM0
UVCAM7
HSYNCCAM
VSYNCCAM
FLDCAM
YSCN0
YSCN7
UVSCN0
UVSCN7
YC1D0
YC1D7
UVC1D0
UVC1D7
YS1D0
YS1D7
UVS1D0
UVS1D7
YS1D (0..7)
UVS1D (0..7)
CN042 (3/3)
+5V
PCLKQCAM2
PCLK2XCAM2
PCLKQSCN2
PCLK2XSCN2
HSYNCSCN2
VSYNCSCN2
FLDSCN2
BLANKSCN2
HSYNCCAM2
VSYNCCAM2
FLDCAM2
YCAM20
YCAM27
UVCAM20
UVCAM27
YSCN20
YSCN27
UVSCN20
UVSCN27
YC2D0
YC2D7
UVC2D0
UVC2D7
YS2D0
YS2D7
UVS2D0
UVS2D7
YS2D (0..7)
UVS2D (0..7)
PCLK2XSCN2 D
PCLKQSCN2 D
HSYNCSCN2 D
VSYNCSCN2 D
FLDSCN2 D
BLANKSCN2 D
C100 47 16V
RB105 10k
VCP2 IN A
VCP2 IN B
CIF CAM CLK
VCP1 IN AT
VCP1 IN BT
CIF CAM QCLK
VCP1 IN CIF
VCP1 IN A
VCP1 IN B
IC101 TC74VHC125
IC102 TC74VHC125
IC103 TC74VHC125
R101 47
R102 10
R103 4.7
R104 47
R105 27
RB103 10k
RB104 10k
IC104 TC74VHC157F
IC105 TC74VHC175F
IC106 TC74VHC157F
CL101
CL102
CL103
CL104
CL108
CL109
CL110
PCLK2XCAM2 V
PCLKQCAM2 V
HSYNCCAM2 V
VSYNCCAM2 V
FLDCAM2 V
IHD
IVD
IFLD
PCLK2XCAM1 V
PCLKQCAM1 V
ICLK1
YCMD (0..7)
UVCMD (0..7)
YC2V (0..7)
UVC2V (0..7)
IC107 μPD65621GB-Y12
IC108 μPD65621GB-Y12
RB106 10k
RB107 10k
RB108 10k
RB109 10k
RB110 10k
RB111 10k
RB112 10k
RB113 10k
YCMD0
YCMD7
UVCMD0
UVCMD7
YC2V0
YC2V7
UVC2V0
UVC2V7
OE1
OE2/CR
MODE
SELA0
SELA1
SELB0
SELB1
IFF
OFF
CLK
VDD
GND
C101 0.1
C102 0.1
C103 0.1
C104 0.1
C105 0.1
C106 0.1
C107 0.1
C108 0.1
5V

**VPR-019B** BOARD **(4/8)**
1-671-088-11
B-NMX112-VPR019-6

6-123 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## VPR-019B (5/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE

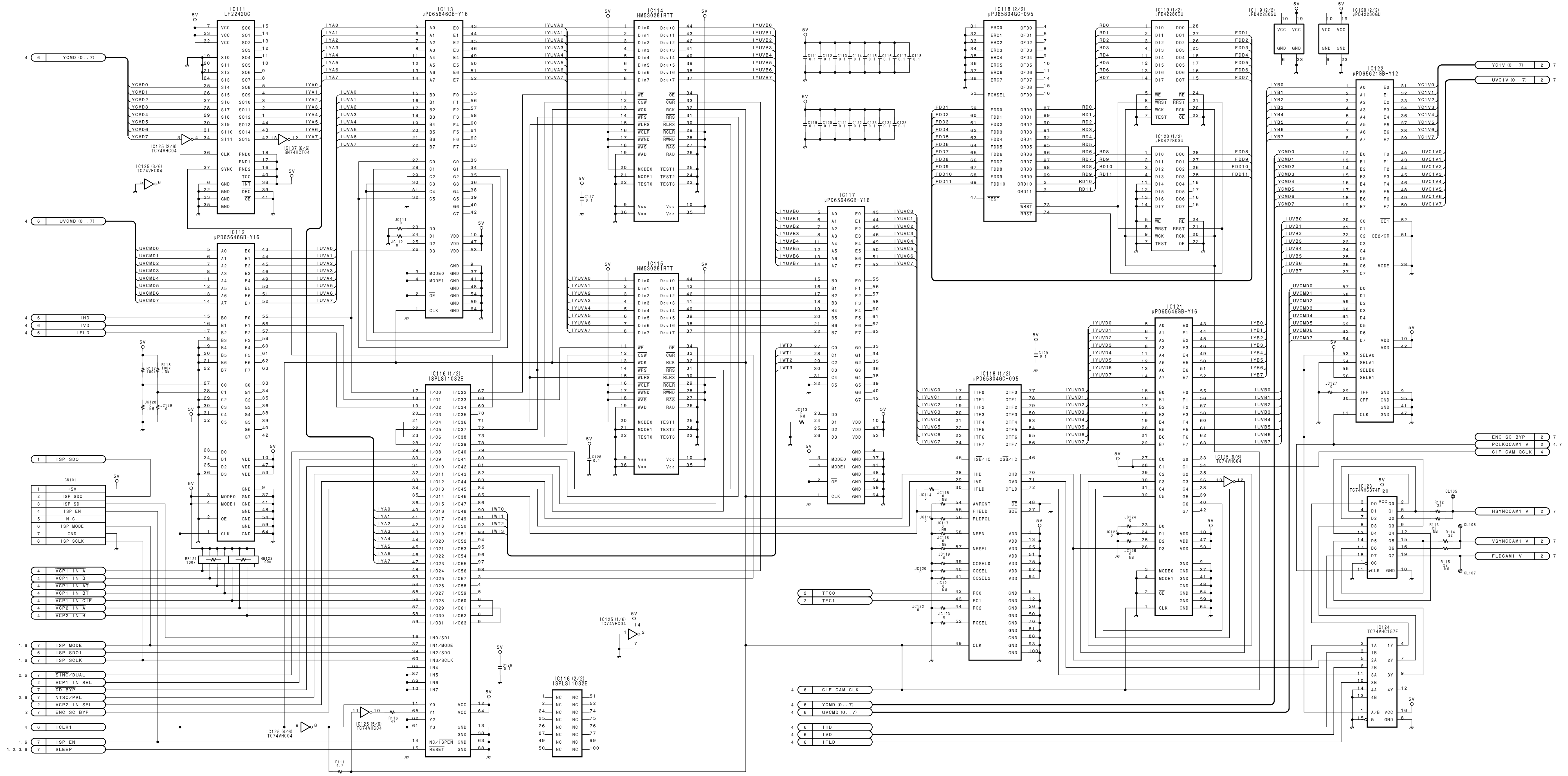
1

2

3

4

5


IC111 LF2242QC
IC112 μPD65646GB-Y16
IC113 μPD65646GB-Y16
IC114 HM530281RTT
IC115 HM530281RTT
IC116 (1/2) ISPLSI1032E
IC116 (2/2) ISPLSI1032E
IC117 μPD65646GB-Y16
IC118 (1/2) μPD65804GC-095
IC118 (2/2) μPD65804GC-095
IC119 (1/2) μPD42280GU
IC119 (2/2) μPD42280GU
IC120 (1/2) μPD42280GU
IC120 (2/2) μPD42280GU
IC121 μPD65646GB-Y16
IC122 μPD65621GB-Y12
IC123 TC74VHC374F
IC124 TC74VHC157F
IC125 TC74VHC04
IC137 (6/6) SN74HCT04
CN101
YCMD (0 . . 7)
UVCMD (0 . . 7)
IHD
IVD
IFLD
ISP SDO
+5V
ISP SDI
ISP EN
N.C
ISP MODE
GND
ISP SCLK
VCP1 IN A
VCP1 IN B
VCP1 IN AT
VCP1 IN BT
VCP1 IN CIF
VCP2 IN A
VCP2 IN B
ISP MODE
ISP SDO1
ISP SCLK
SING/DUAL
VCP1 IN SEL
DD BYP
NTSC/PAL
VCP2 IN SEL
ENC SC BYP
ICLK1
ISP EN
SLEEP
TFC0
TFC1
CIF CAM CLK
YC1V (0 . . 7)
UVC1V (0 . . 7)
ENC SC BYP
PCLKQCAM1 V
CIF CAM QCLK
HSYNCCAM1 V
VSYNCCAM1 V
FLDCAM1 V
5V

VPR-019B BOARD (5/8)

1-671-088-11

B-NMX112-VPR019-6

A B C D E F G H

## VPR-019B (6/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE

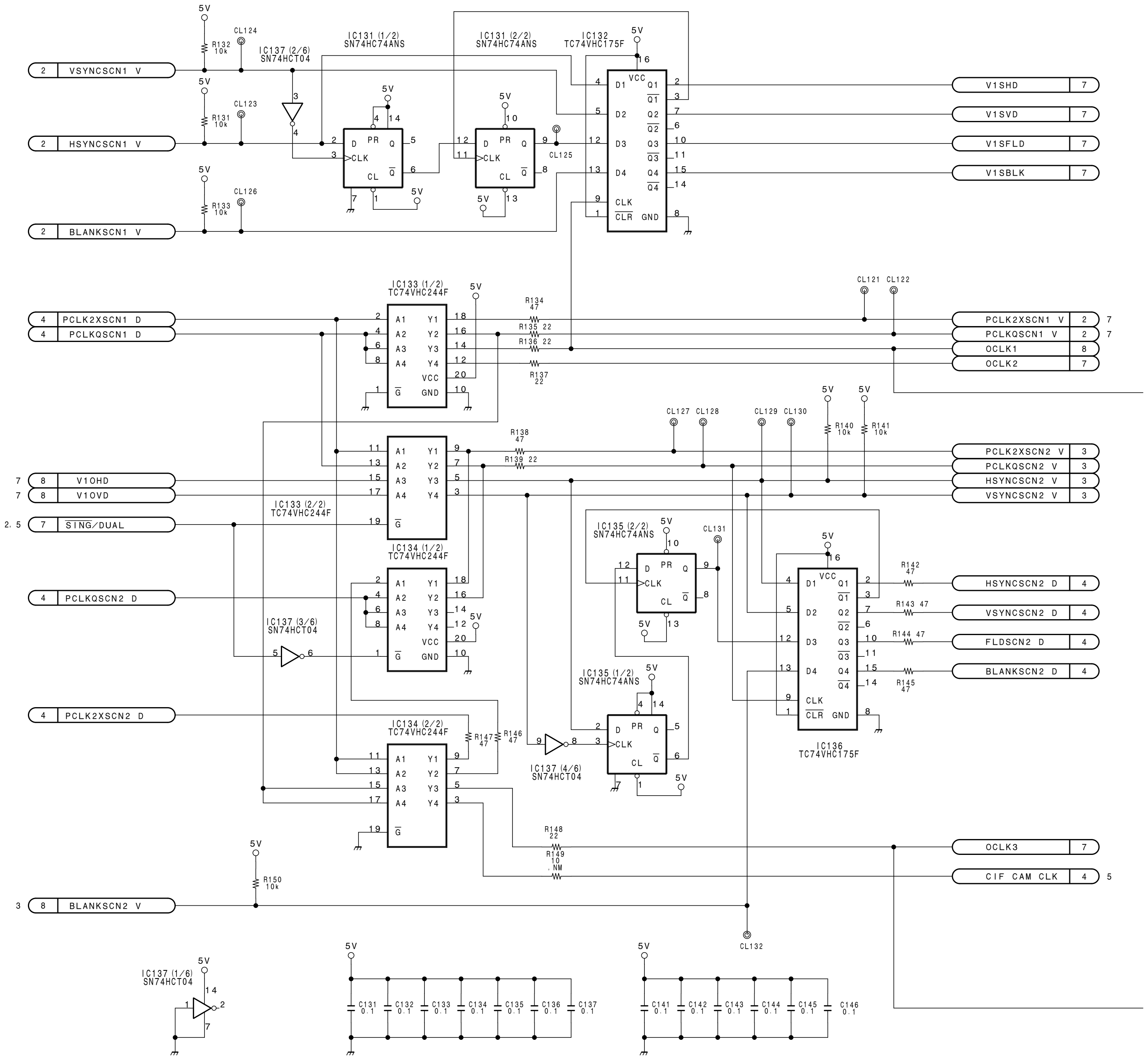
1

2

3

4

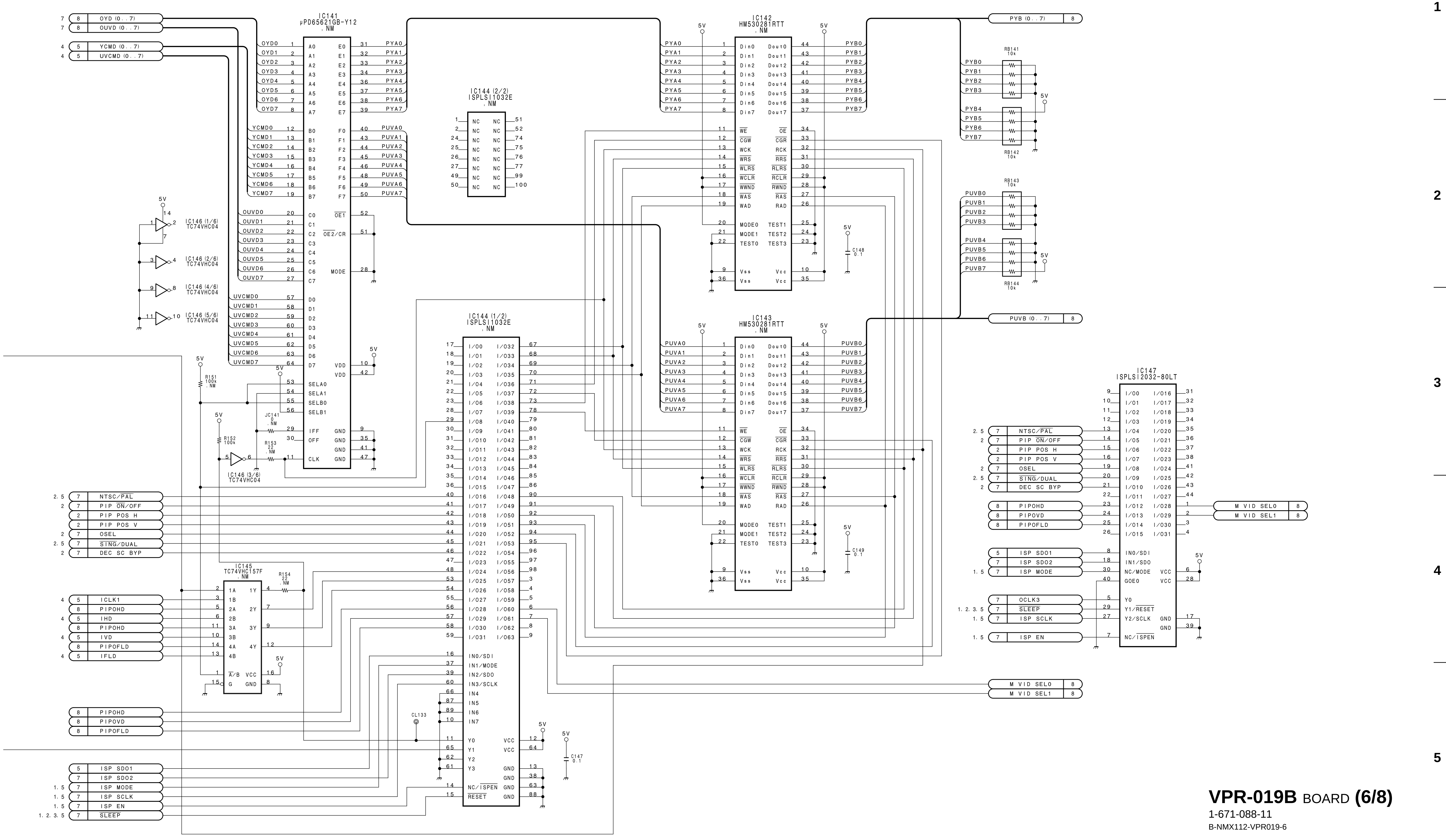
5


VSYNCSCN1 V
HSYNCSCN1 V
BLANKSCN1 V
R132 10k
R131 10k
R133 10k
CL124
CL123
CL126
IC137 (2/6) SN74HCT04
IC131 (1/2) SN74HC74ANS
IC131 (2/2) SN74HC74ANS
IC132 TC74VHC175F
CL125
5V
V1SHD
V1SVD
V1SFLD
V1SBLK
PCLK2XSCN1 D
PCLKQSCN1 D
IC133 (1/2) TC74VHC244F
R134 47
R135 22
R136 22
R137 22
CL121
CL122
PCLK2XSCN1 V
PCLKQSCN1 V
OCLK1
OCLK2
V1OHD
V1OVD
SING/DUAL
IC133 (2/2) TC74VHC244F
R138 47
R139 22
CL127
CL128
CL129
CL130
R140 10k
R141 10k
PCLK2XSCN2 V
PCLKQSCN2 V
HSYNCSCN2 V
VSYNCSCN2 V
IC134 (1/2) TC74VHC244F
PCLKQSCN2 D
IC137 (3/6) SN74HCT04
IC135 (2/2) SN74HC74ANS
CL131
IC135 (1/2) SN74HC74ANS
IC136 TC74VHC175F
R142 47
R143 47
R144 47
R145 47
HSYNCSCN2 D
VSYNCSCN2 D
FLDSCN2 D
BLANKSCN2 D
PCLK2XSCN2 D
IC134 (2/2) TC74VHC244F
R147 47
R146 47
IC137 (4/6) SN74HCT04
R148 22
R149 10 NM
OCLK3
CIF CAM CLK
R150 10k
BLANKSCN2 V
CL132
IC137 (1/6) SN74HCT04
C131 0.1
C132 0.1
C133 0.1
C134 0.1
C135 0.1
C136 0.1
C137 0.1
C141 0.1
C142 0.1
C143 0.1
C144 0.1
C145 0.1
C146 0.1

6-126 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

A | B | C | D | E | F | G | H

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

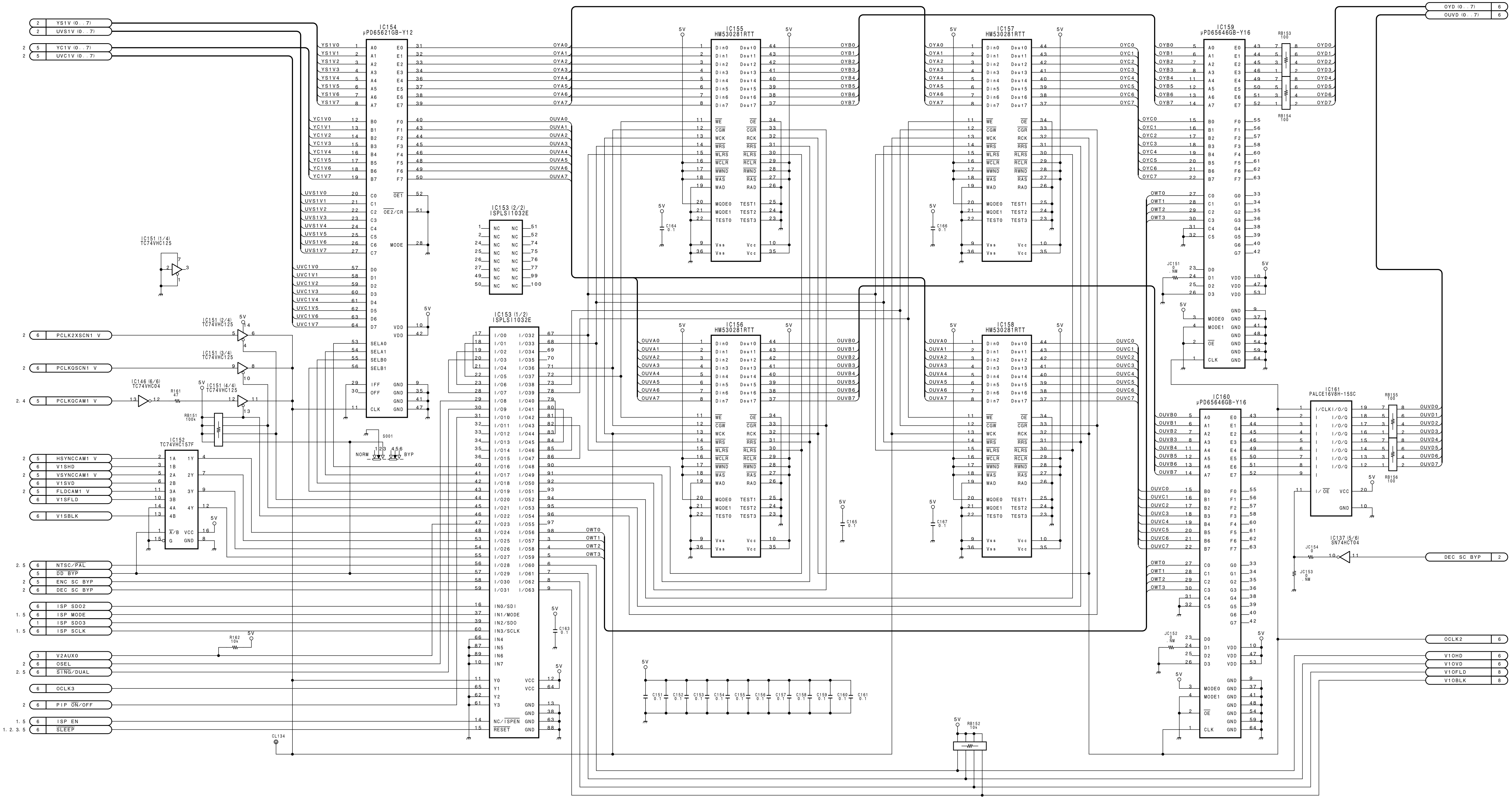

IC141
μPD65621GB-Y12
.NM
IC142
HM530281RTT
.NM
IC143
HM530281RTT
.NM
IC144 (1/2)
ISPLSI1032E
.NM
IC144 (2/2)
ISPLSI1032E
.NM
IC145
TC74VHC157F
.NM
IC146 (1/6) TC74VHC04
IC146 (2/6) TC74VHC04
IC146 (3/6) TC74VHC04
IC146 (4/6) TC74VHC04
IC146 (5/6) TC74VHC04
IC147
ISPLSI2032-80LT
OYD (0..7)
OUVD (0..7)
YCMD (0..7)
UVCMD (0..7)
PYB (0..7)
PUVB (0..7)
RB141 10k
RB142 10k
RB143 10k
RB144 10k
R151 100k .NM
R152 100k
R153 22 .NM
R154 22 .NM
JC141 0 .NM
C147 0.1
C148 0.1
C149 0.1
CL133
NTSC/PAL
PIP ON/OFF
PIP POS H
PIP POS V
OSEL
SING/DUAL
DEC SC BYP
ICLK1
PIPOHD
IHD
IVD
PIPOFLD
IFLD
PIPOVD
ISP SDO1
ISP SDO2
ISP MODE
ISP SCLK
ISP EN
SLEEP
OCLK3
M VID SEL0
M VID SEL1
5V
1
2
3
4
5
I
J
K
L
M
N
O
P

**VPR-019B** BOARD **(6/8)**
1-671-088-11
B-NMX112-VPR019-6

VPR-019B (7/8)

## VPR-019B (7/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |


IC154 μPD6562IGB-Y12
IC155 HM530281RTT
IC156 HM530281RTT
IC157 HM530281RTT
IC158 HM530281RTT
IC159 μPD65646GB-Y16
IC160 μPD65646GB-Y16
IC161 PALCE16V8H-15SC
IC153 (2/2) ISPLSI1032E
IC153 (1/2) ISPLSI1032E
IC151 (1/4) TC74VHC125
IC151 (2/4) TC74VHC125
IC151 (3/4) TC74VHC125
IC151 (4/4) TC74VHC125
IC146 (6/6) TC74VHC04
IC152 TC74VHC157F
IC137 (5/6) SN74HCT04
S001
NORM
BYP
YS1V (0..7)
UVS1V (0..7)
YC1V (0..7)
UVC1V (0..7)
PCLK2XSCN1 V
PCLKQSCN1 V
PCLKQCAM1 V
HSYNCCAM1 V
V1SHD
VSYNCCAM1 V
V1SVD
FLDCAM1 V
V1SFLD
V1SBLK
NTSC/PAL
DD BYP
ENC SC BYP
DEC SC BYP
ISP SDO2
ISP MODE
ISP SDO3
ISP SCLK
V2AUX0
OSEL
SING/DUAL
OCLK3
PIP ON/OFF
ISP EN
SLEEP
OYD (0..7)
OUVD (0..7)
DEC SC BYP
OCLK2
V1OHD
V1OVD
V1OFLD
V1OBLK
RB151 100k
RB152 10k
RB153 100
RB154 100
RB155 100
RB156 100
R161 47
R162 10k
JC151
JC152
JC153
JC154
CL134
5V

### VPR-019B BOARD (7/8)

1-671-088-11

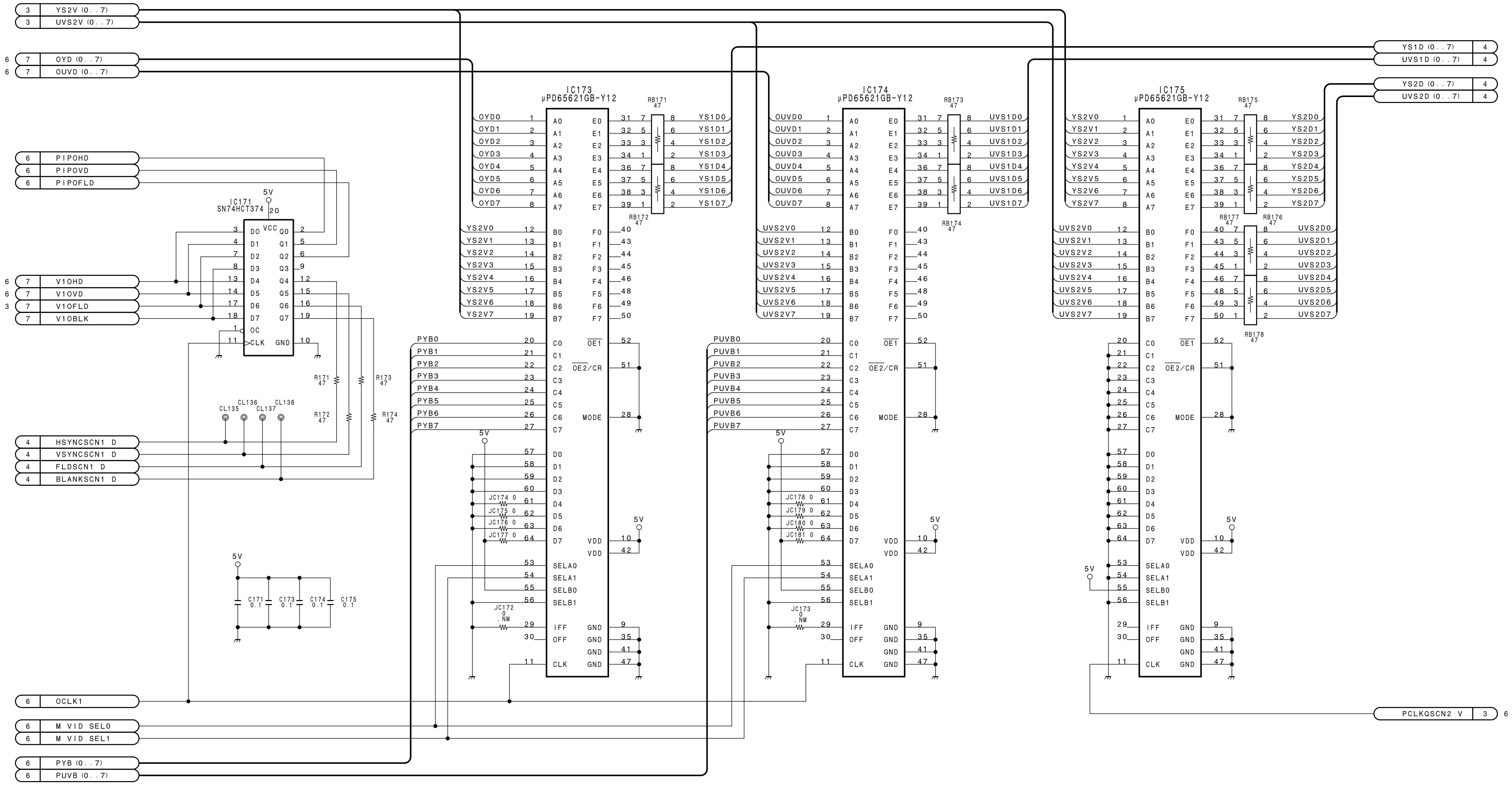
B-NMX112-VPR019-6

6-127-1 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

VPR-019B (8/8)

| | |
|---|---|
| PCS-P500 (J) ; | S/N 63001 and higher |
| PCS-P500 (UC) ; | S/N 23001 and higher |
| PCS-P500P (CE) ; | S/N 53001 and higher |

## VPR-019B (8/8); VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE • DECODE


YS2V (0 . . 7)
UVS2V (0 . . 7)
OYD (0 . . 7)
OUVD (0 . . 7)
PIPOHD
PIPOVD
PIPOFLD
IC171
SN74HCT374
V1OHD
V1OVD
V1OFLD
V1OBLK
R171 47
R172 47
R173 47
R174 47
CL135
CL136
CL137
CL138
HSYNCSCN1 D
VSYNCSCN1 D
FLDSCN1 D
BLANKSCN1 D
C171 0.1
C173 0.1
C174 0.1
C175 0.1
OCLK1
M VID SEL0
M VID SEL1
PYB (0 . . 7)
PUVB (0 . . 7)
IC173
μPD65621GB-Y12
RB171 47
RB172 47
JC172 0 .NM
IC174
μPD65621GB-Y12
RB173 47
RB174 47
JC173 0 .NM
IC175
μPD65621GB-Y12
RB175 47
RB176 47
RB177 47
RB178 47
YS1D (0 . . 7)
UVS1D (0 . . 7)
YS2D (0 . . 7)
UVS2D (0 . . 7)
PCLKQSCN2 V
A0 A1 A2 A3 A4 A5 A6 A7
B0 B1 B2 B3 B4 B5 B6 B7
C0 C1 C2 C3 C4 C5 C6 C7
D0 D1 D2 D3 D4 D5 D6 D7
E0 E1 E2 E3 E4 E5 E6 E7
F0 F1 F2 F3 F4 F5 F6 F7
OE1
OE2/CR
MODE
SELA0 SELA1 SELB0 SELB1
IFF OFF CLK
VDD GND
5V
1
2
3
4
5
A B C D E F G H

**VPR-019B** BOARD **(8/8)**

1-671-088-11

B-NMX112-VPR019-6

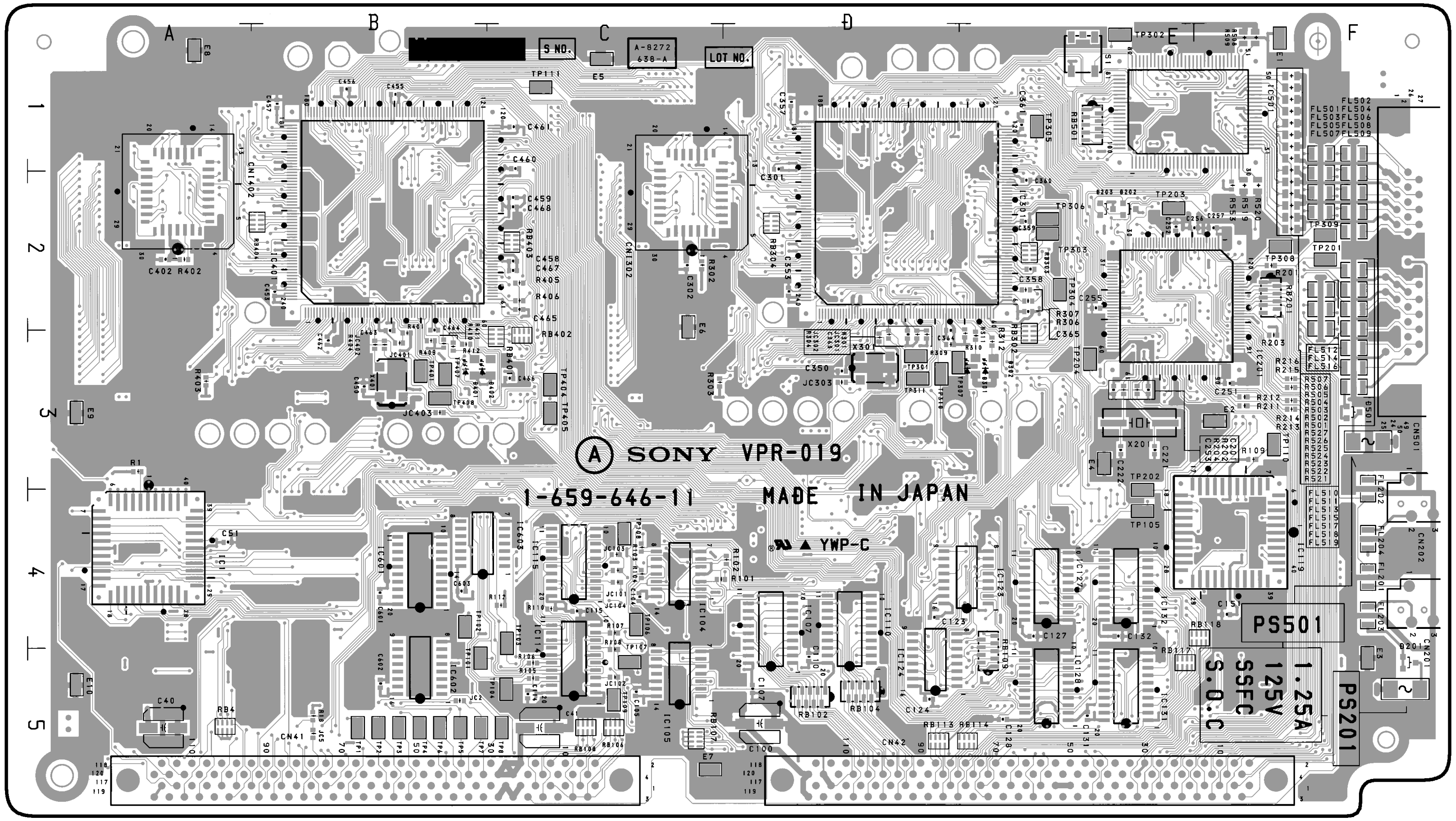
6-127-2 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## VPR-019 ; VIDEO CODEC (H.221, H.261, JPEG, MMR), SIRCS RECEIVE•DECODE

VPR-019 (1-659-646-11)

*:B SDIE

| | |
|---|---|
| CNI1 | A-4 |
| CNI119 | F-4 |
| CN41 | C-5 |
| CN42 | F-5 |
| CN201 | F-4 |
| CN202 | F-3 |
| CN501 | F-2 |
| D1 | *F-1 |
| D2 | *E-1 |
| D3 | *E-1 |
| D201 | F-5 |
| D202 | E-2 |
| D203 | E-2 |
| D301 | E-3 |
| D302 | E-3 |
| D401 | B-3 |
| D402 | C-3 |
| D501 | F-3 |
| E1 | F-1 |
| E2 | F-3 |
| E3 | F-5 |
| E4 | E-3 |
| E5 | C-1 |
| E6 | C-2 |
| E7 | C-5 |
| E8 | A-1 |
| E9 | A-3 |
| E10 | A-5 |
| FL201 | F-4 |
| FL202 | F-4 |
| FL203 | F-4 |
| FL204 | F-4 |
| FL501 | F-1 |
| FL502 | F-1 |
| FL503 | F-2 |
| FL504 | F-2 |
| FL505 | F-2 |
| FL506 | F-2 |
| FL507 | F-2 |
| FL508 | F-2 |
| FL509 | F-2 |
| FL510 | F-2 |
| FL511 | F-2 |
| FL512 | F-2 |
| FL513 | F-2 |
| FL514 | F-2 |
| FL515 | F-2 |
| FL516 | F-2 |
| FL517 | F-3 |
| FL518 | F-3 |
| FL519 | F-3 |
| IC3 | *A-4 |
| IC4 | *B-4 |
| IC5 | *A-4 |
| IC6 | *B-5 |
| IC7 | *E-1 |
| IC101 | *F-5 |
| IC102 | *F-4 |
| IC103 | *F-4 |
| IC104 | C-4 |
| IC105 | C-5 |
| IC106 | *D-4 |
| IC107 | D-4 |
| IC108 | *D-4 |
| IC109 | *D-4 |
| IC110 | D-4 |
| IC111 | *D-4 |
| IC112 | *C-4 |
| IC113 | *C-5 |
| IC114 | C-5 |
| IC115 | C-4 |
| IC116 | *C-4 |
| IC117 | *C-5 |
| IC118 | *C-4 |
| IC121 | *D-4 |
| IC122 | *D-5 |
| IC123 | E-4 |
| IC124 | D-5 |
| IC125 | *E-4 |
| IC126 | *E-5 |
| IC127 | E-4 |
| IC128 | E-5 |
| IC129 | *E-4 |
| IC130 | *E-5 |
| IC131 | E-5 |
| IC132 | E-4 |
| IC201 | E-2 |
| IC202 | *E-3 |
| IC203 | *E-2 |
| IC204 | *F-2 |
| IC301 | D-2 |
| IC303 | *C-2 |
| IC304 | *C-2 |
| IC305 | *C-3 |
| IC306 | *C-3 |
| IC307 | *E-2 |
| IC308 | *E-1 |
| IC309 | *D-2 |
| IC401 | B-2 |
| IC403 | *A-2 |
| IC404 | *A-2 |
| IC405 | *A-3 |
| IC406 | *A-3 |
| IC407 | *C-2 |
| IC408 | *C-2 |
| IC409 | *B-2 |
| IC410 | *B-2 |
| IC501 | E-1 |
| JC2 | B-5 |
| JC3 | *A-4 |
| JC101 | C-4 |
| JC102 | C-5 |
| JC301 | D-3 |
| JC303 | D-3 |
| JC401 | B-3 |
| JC403 | B-3 |
| PS201 | F-5 |
| PS501 | F-3 |
| Q1 | *E-2 |
| RB1 | *B-5 |
| RB2 | *A-5 |
| RB5 | *B-5 |
| RB6 | *B-4 |
| RB7 | *A-4 |
| RB101 | *D-5 |
| RB102 | D-5 |
| RB103 | *D-5 |
| RB104 | D-5 |
| RB105 | *F-5 |
| RB106 | C-5 |
| RB107 | C-5 |
| RB108 | C-5 |
| RB111 | *E-5 |
| RB112 | *E-5 |
| RB113 | D-5 |
| RB114 | E-5 |
| RB115 | *E-5 |
| RB116 | *E-5 |
| RB117 | E-5 |
| RB118 | F-4 |
| RB201 | F-2 |
| RB301 | *E-2 |
| RB302 | E-3 |
| RB303 | E-2 |
| RB304 | D-2 |
| RB401 | C-3 |
| RB402 | C-3 |
| RB403 | C-2 |
| RB404 | B-2 |
| RB501 | E-1 |
| S1 | E-1 |
| TP1 | B-5 |
| TP2 | B-5 |
| TP3 | B-5 |
| TP4 | B-5 |
| TP5 | B-5 |
| TP6 | B-5 |
| TP7 | B-5 |
| TP8 | C-5 |
| TP101 | B-5 |
| TP102 | B-4 |
| TP103 | C-4 |
| TP104 | C-5 |
| TP105 | E-4 |
| TP106 | C-4 |
| TP107 | C-5 |
| TP108 | C-4 |
| TP109 | C-5 |
| TP110 | F-3 |
| TP111 | C-1 |
| TP201 | F-2 |
| TP202 | E-4 |
| TP203 | E-2 |
| TP204 | E-3 |
| TP301 | D-3 |
| TP302 | E-1 |
| TP303 | E-2 |
| TP304 | E-2 |
| TP305 | E-1 |
| TP306 | E-2 |
| TP307 | D-3 |
| TP308 | F-2 |
| TP309 | F-2 |
| TP310 | D-3 |
| TP311 | D-3 |
| TP401 | B-3 |
| TP402 | *C-2 |
| TP403 | *C-2 |
| TP404 | C-3 |
| TP405 | C-3 |
| TP406 | *C-3 |
| TP407 | B-3 |
| TP408 | B-3 |
| X201 | E-3 |
| X202 | *E-2 |
| X301 | D-3 |
| X401 | B-3 |

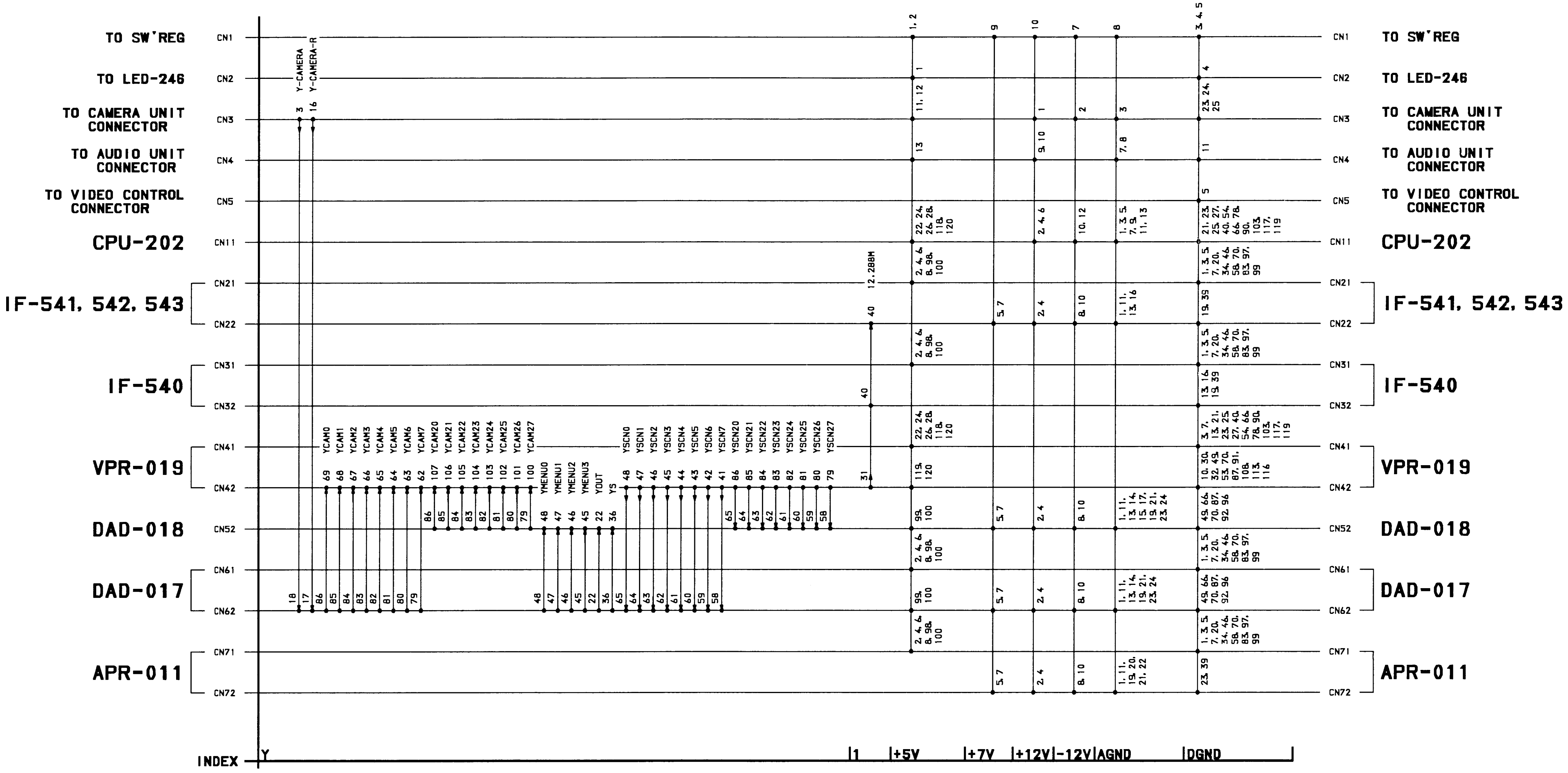


**VPR-019** -A SIDE-

1-659-646-11

PCS-P500/P500P ; #10001-

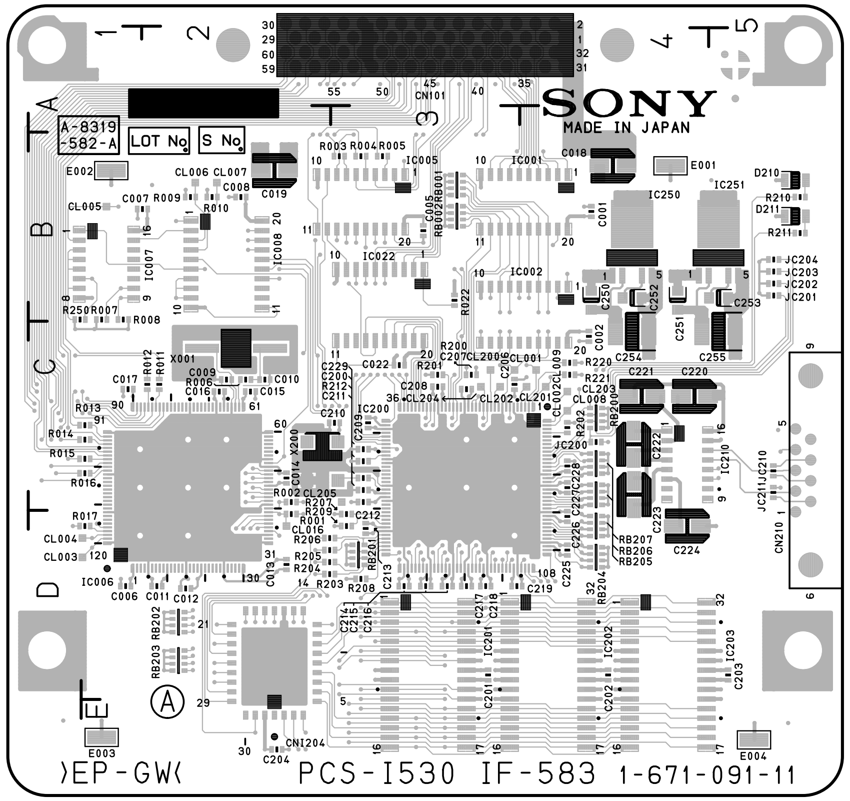
## CN-1218 (4/4); CONNECTION


TO SW'REG
TO LED-246
TO CAMERA UNIT CONNECTOR
TO AUDIO UNIT CONNECTOR
TO VIDEO CONTROL CONNECTOR
CPU-202
IF-541, 542, 543
IF-540
VPR-019
DAD-018
DAD-017
APR-011
CN1
CN2
CN3
CN4
CN5
CN11
CN21
CN22
CN31
CN32
CN41
CN42
CN52
CN61
CN62
CN71
CN72
Y-CAMERA
Y-CAMERA-R
YCAM0
YCAM1
YCAM2
YCAM3
YCAM4
YCAM5
YCAM6
YCAM7
YCAM20
YCAM21
YCAM22
YCAM23
YCAM24
YCAM25
YCAM26
YCAM27
YMENU0
YMENU1
YMENU2
YMENU3
YOUT
YS
YSCN0
YSCN1
YSCN2
YSCN3
YSCN4
YSCN5
YSCN6
YSCN7
YSCN20
YSCN21
YSCN22
YSCN23
YSCN24
YSCN25
YSCN26
YSCN27
12.288M
INDEX
Y
1
+5V
+7V
+12V
-12V
AGND
DGND

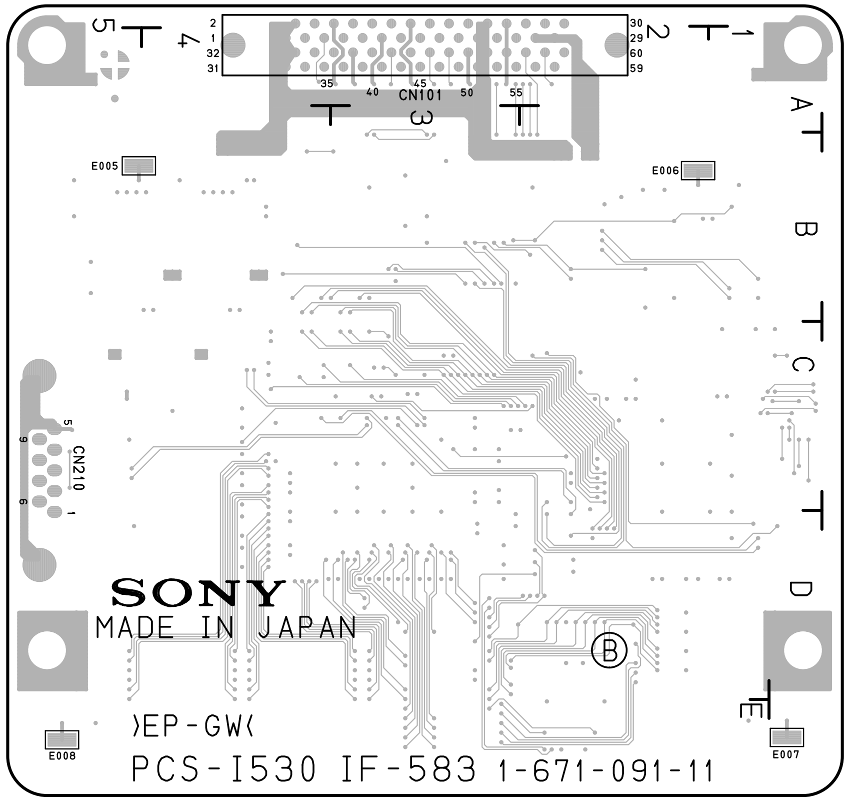
**CN-1218** BOARD **(4/4)**
1-659-642-11
PCS-P500/P500P ; #10001-

6-135
(PCS-P500/P500P SERVICE MANUAL Volume 2)

PCS-I530 (J) : SN 33001 and higher
PCS-I530 (UC) : SN 13001 and higher
PCS-I530 (CE) : SN 43001 and higher


SONY
MADE IN JAPAN
A-8319
-582-A
LOT No
S No
CN101
CN210
Ⓐ
)EP-GW(
PCS-I530 IF-583 1-671-091-11

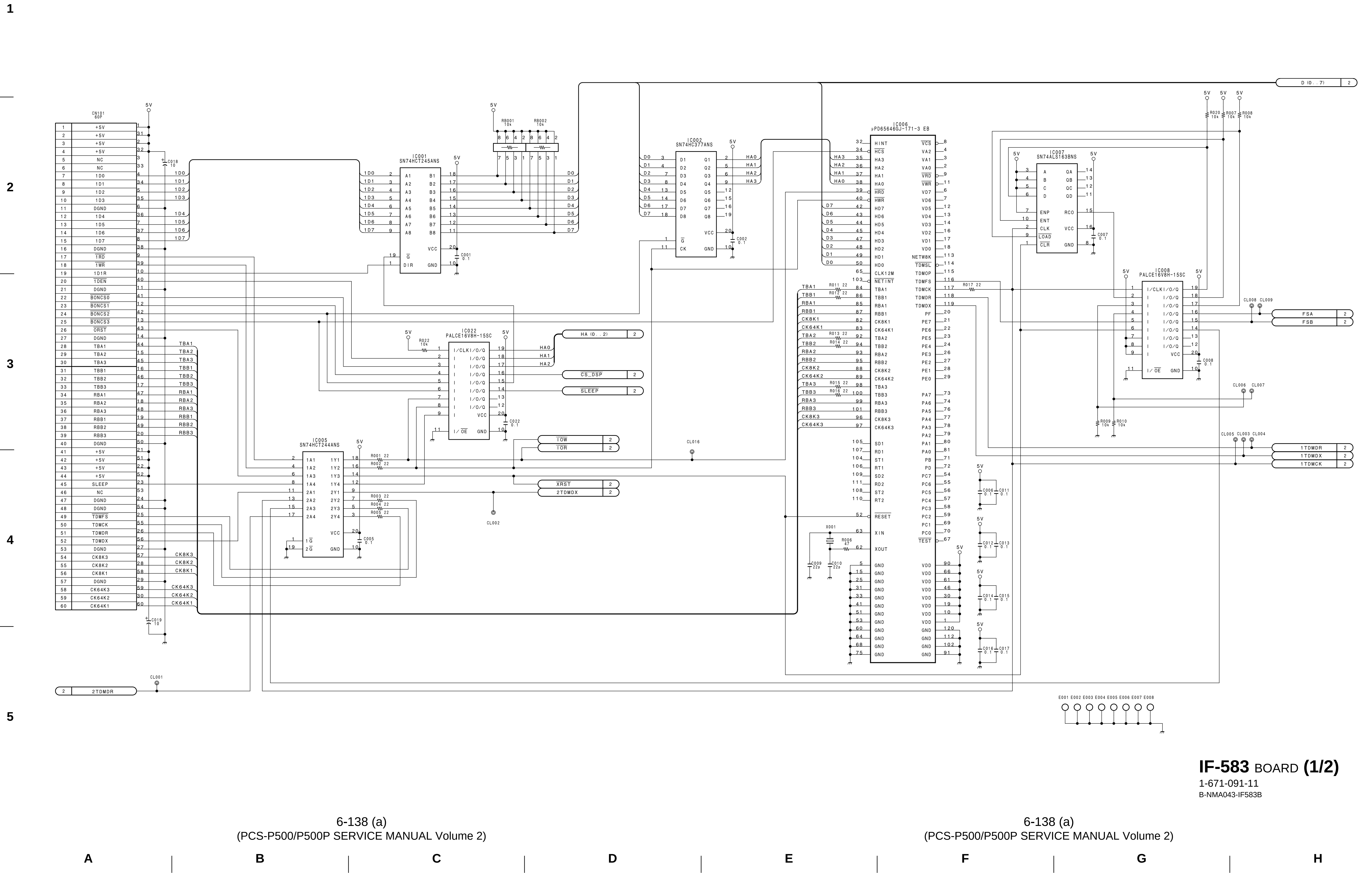
**IF-583** **-A SIDE-**
SUFFIX: -11


SONY
MADE IN JAPAN
CN101
CN210
Ⓑ
)EP-GW(
PCS-I530 IF-583 1-671-091-11

**IF-583** **-B SIDE-**
SUFFIX: -11

## IF-583 (1/2); BONDING INTERFACE

| | |
|---|---|
| PCS-I530 (J) ; | S/N 33001 and higher |
| PCS-I530 (UC) ; | S/N 13001 and higher |
| PCS-I530 (CE) ; | S/N 43001 and higher |

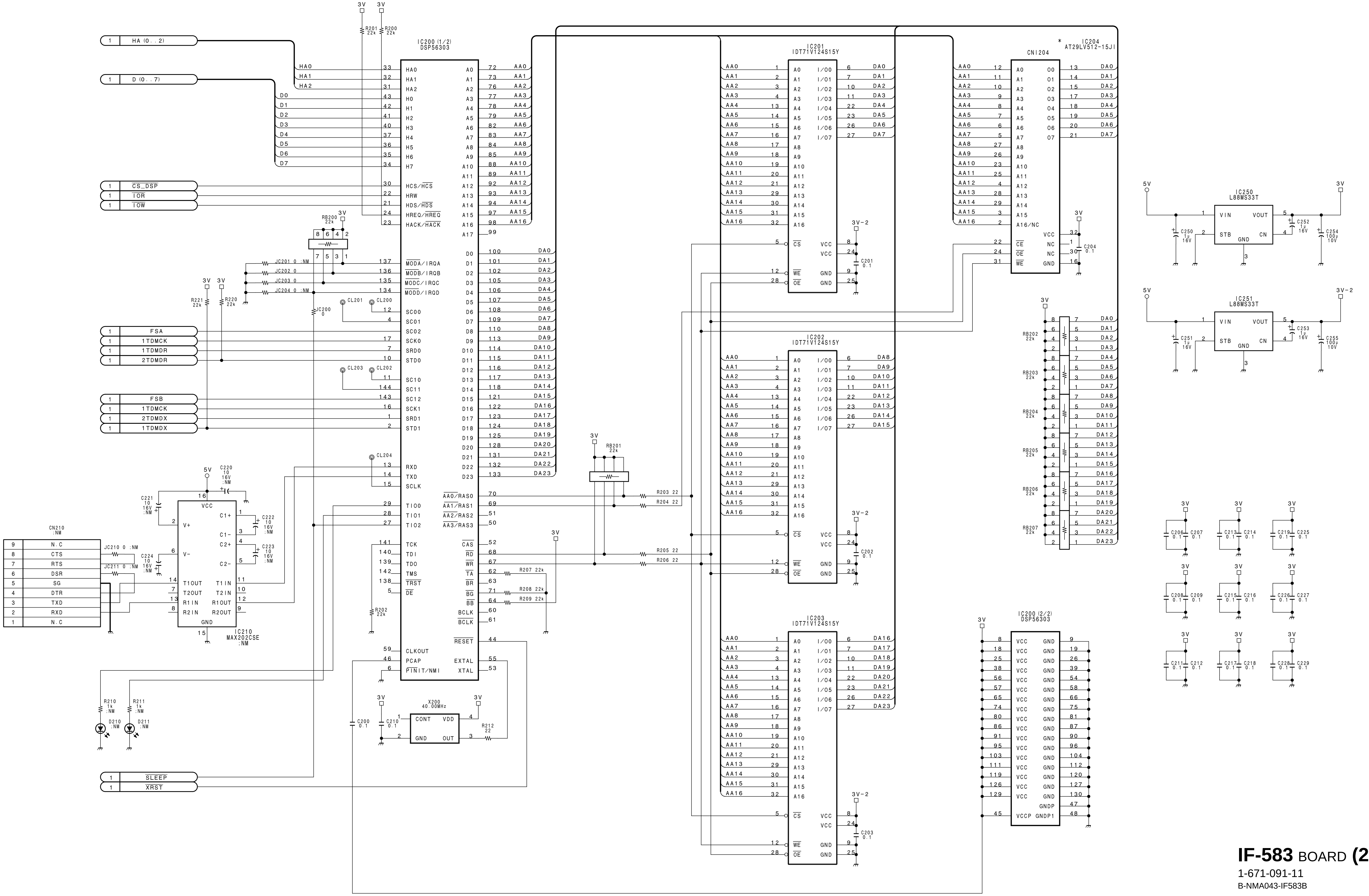

1
2
3
4
5
A
B
C
D
E
F
G
H
CN101 60P
+5V
NC
1D0
1D1
1D2
1D3
1D4
1D5
1D6
1D7
DGND
1RD
1WR
1D1R
1DEN
BONCS0
BONCS1
BONCS2
BONCS3
ORST
TBA1
TBA2
TBA3
TBB1
TBB2
TBB3
RBA1
RBA2
RBA3
RBB1
RBB2
RBB3
SLEEP
TDMFS
TDMCK
TDMDR
TDMDX
CK8K3
CK8K2
CK8K1
CK64K3
CK64K2
CK64K1
C018 10
C019 10
IC001 SN74HCT245ANS
C001 0.1
RB001 10k
RB002 10k
IC002 SN74HC377ANS
C002 0.1
IC022 PALCE16V8H-15SC
R022 10k
C022 0.1
HA (0..2)
CS_DSP
SLEEP
1OW
1OR
XRST
2TDMDX
IC005 SN74HCT244ANS
R001 22
R002 22
R003 22
R004 22
R005 22
C005 0.1
CL001
2TDMDR
CL002
CL016
IC006 μPD65646GJ-171-3 EB
HINT
HCS
HA3
HA2
HA1
HA0
HRD
HWR
HD7
HD6
HD5
HD4
HD3
HD2
HD1
HD0
CLK12M
NETINT
RESET
XIN
XOUT
X001
R006 47
C009 22p
C010 22p
R011 22
R012 22
R013 22
R014 22
R015 22
R016 22
R017 22
D (0..7)
5V
R020 10k
R007 10k
R008 10k
IC007 SN74ALS163BNS
C007 0.1
IC008 PALCE16V8H-15SC
C008 0.1
CL008 CL009
FSA
FSB
CL006 CL007
R009 10k
R010 10k
CL005 CL003 CL004
1TDMDR
1TDMDX
1TDMCK
C006 0.1 C011 0.1
C012 0.1 C013 0.1
C014 0.1 C015 0.1
C016 0.1 C017 0.1
E001 E002 E003 E004 E005 E006 E007 E008

**IF-583** BOARD **(1/2)**
1-671-091-11
B-NMA043-IF583B

6-138 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

## IF-583 (2/2); BONDING INTERFACE

| | |
|---|---|
| PCS-I530 (J) ; | S/N 33001 and higher |
| PCS-I530 (UC) ; | S/N 13001 and higher |
| PCS-I530 (CE) ; | S/N 43001 and higher |



HA (0..2)
D (0..7)
CS_DSP
IOR
IOW
FSA
1TDMCK
1TDMDR
2TDMDR
FSB
1TDMCK
2TDMDX
1TDMDX
SLEEP
XRST
IC200 (1/2) DSP56303
IC201 IDT71V124S15Y
IC202 IDT71V124S15Y
IC203 IDT71V124S15Y
CN1204
IC204 AT29LV512-15JI
IC250 L88MS33T
IC251 L88MS33T
IC210 MAX202CSE :NM
CN210 :NM
N.C
CTS
RTS
DSR
SG
DTR
TXD
RXD
N.C
X200 40.00MHz
IC200 (2/2) DSP56303
RB200 22k
RB201 22k
RB202 22k
RB203 22k
RB204 22k
RB205 22k
RB206 22k
RB207 22k
3V
5V
3V-2

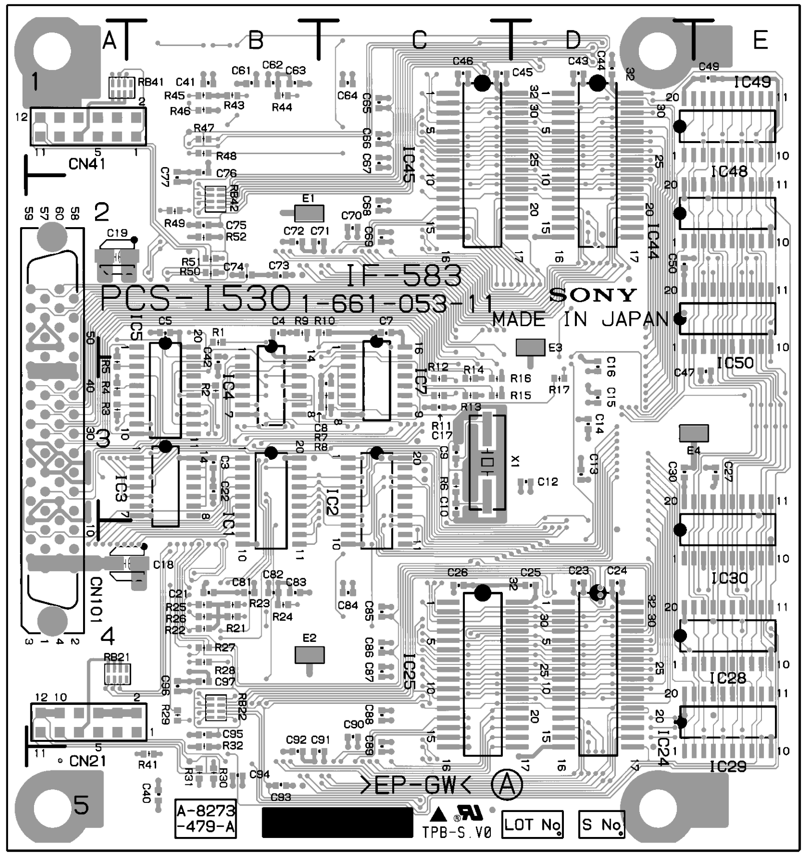
**IF-583** BOARD **(2/2)**
1-671-091-11
B-NMA043-IF583B

## IF-583 ; BONDING INTERFACE

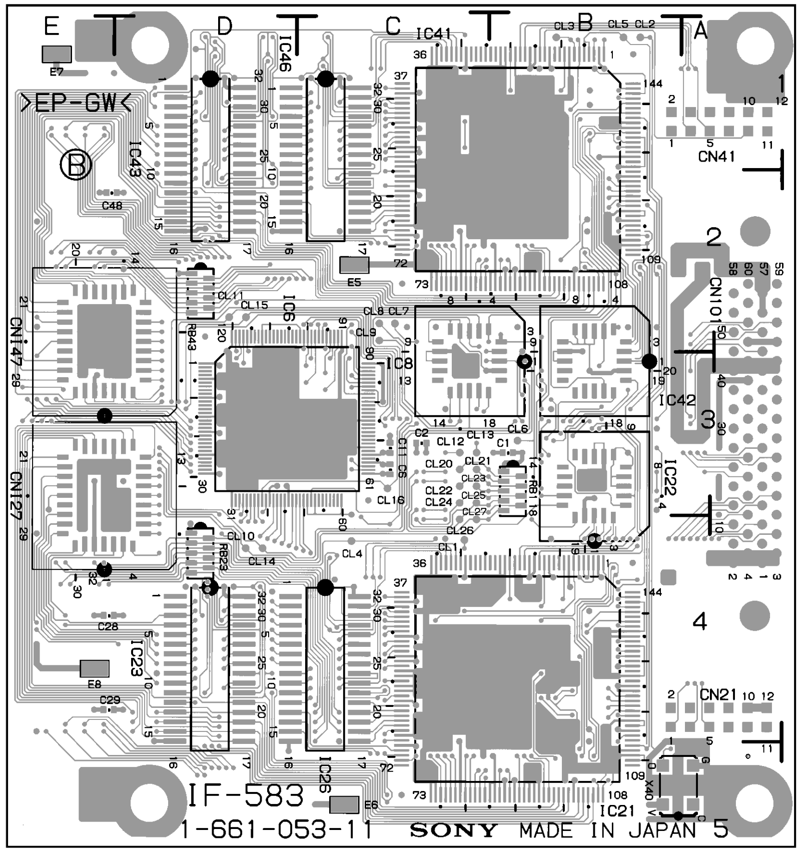
IF-583 (1-661-053-11)

*:B SDIE

| | |
|---|---|
| CNI27 | *E-3 |
| CNI47 | *E-2 |
| CN101 | A-4 |
| E1 | B-2 |
| E2 | B-4 |
| E3 | D-2 |
| E4 | E-3 |
| E5 | *C-2 |
| E6 | *C-5 |
| E7 | *E-1 |
| E8 | *E-4 |
| IC1 | B-3 |
| IC2 | C-3 |
| IC3 | B-3 |
| IC4 | B-3 |
| IC5 | B-3 |
| IC6 | *D-3 |
| IC7 | C-3 |
| IC8 | *C-3 |
| IC21 | *B-4 |
| IC22 | *B-3 |
| IC23 | *D-4 |
| IC24 | D-4 |
| IC25 | C-4 |
| IC26 | *C-4 |
| IC27 | *E-3 |
| IC28 | E-4 |
| IC29 | E-4 |
| IC30 | E-4 |
| IC41 | *B-1 |
| IC42 | *B-3 |
| IC43 | *D-1 |
| IC44 | D-1 |
| IC45 | C-1 |
| IC46 | *C-1 |
| IC47 | *E-2 |
| IC48 | E-2 |
| IC49 | E-1 |
| IC50 | E-2 |
| RB1 | *B-3 |
| RB21 | A-4 |
| RB22 | B-4 |
| RB23 | *D-4 |
| RB41 | A-1 |
| RB42 | B-2 |
| RB43 | *D-2 |
| X1 | C-3 |
| X40 | *B-5 |

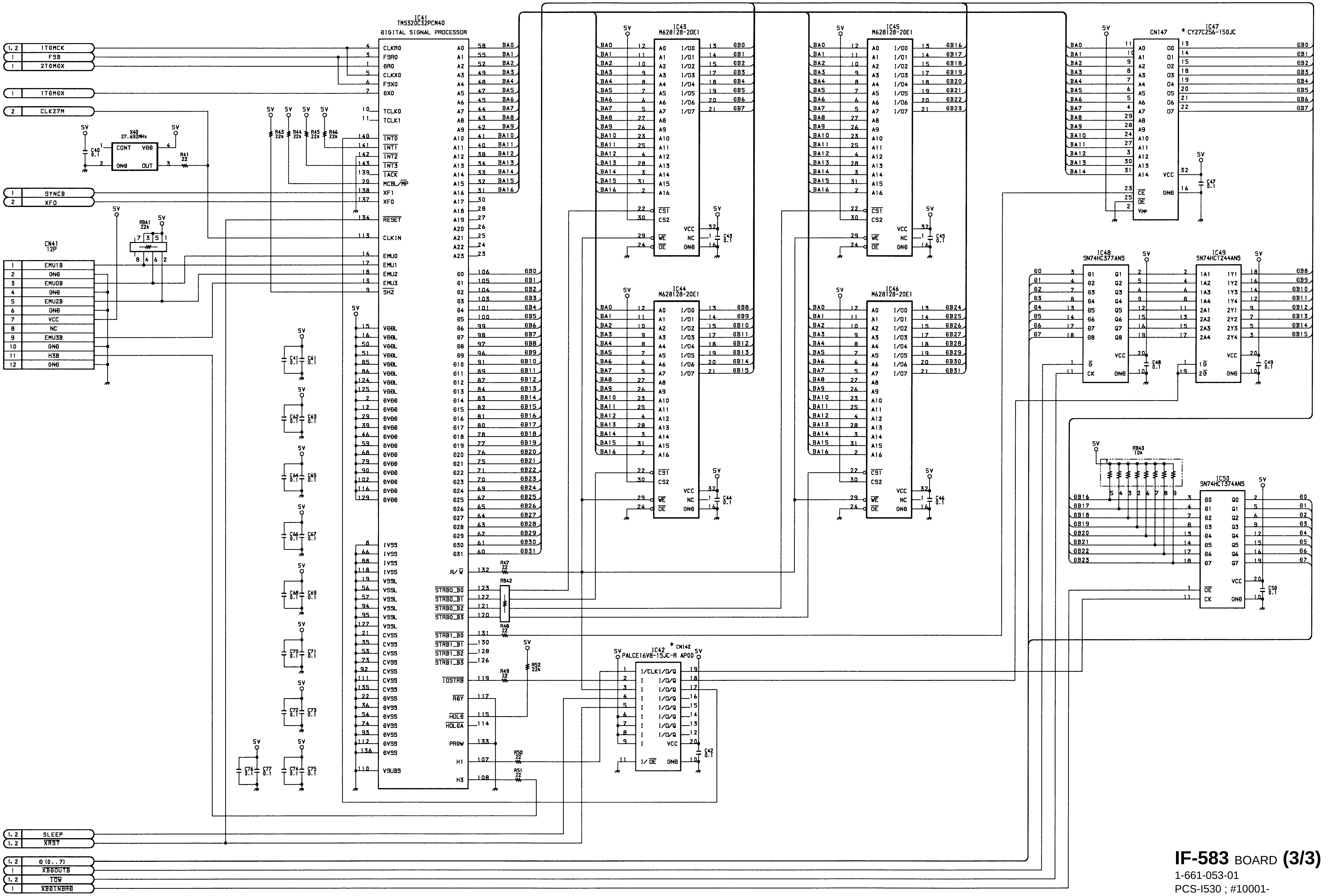

A
B
C
D
E
1
2
3
4
5
PCS-I530
IF-583
1-661-053-11
SONY
MADE IN JAPAN
>EP-GW<
Ⓐ
A-8273
-479-A
TPB-S V0
LOT No
S No
CN41
CN21
CN101
IC1
IC2
IC3
IC4
IC5
IC7
IC24
IC25
IC28
IC29
IC30
IC44
IC45
IC48
IC49
IC50
X1

**IF-583** **-A SIDE-**
1-661-053-11
PCS-P500/P500P ; #10001-


E
D
C
B
A
1
2
3
4
5
>EP-GW<
Ⓑ
IF-583
1-661-053-11
SONY
MADE IN JAPAN
CN41
CN21
CN101
CNI47
CNI27
IC6
IC8
IC21
IC22
IC23
IC26
IC41
IC42
IC43
IC46

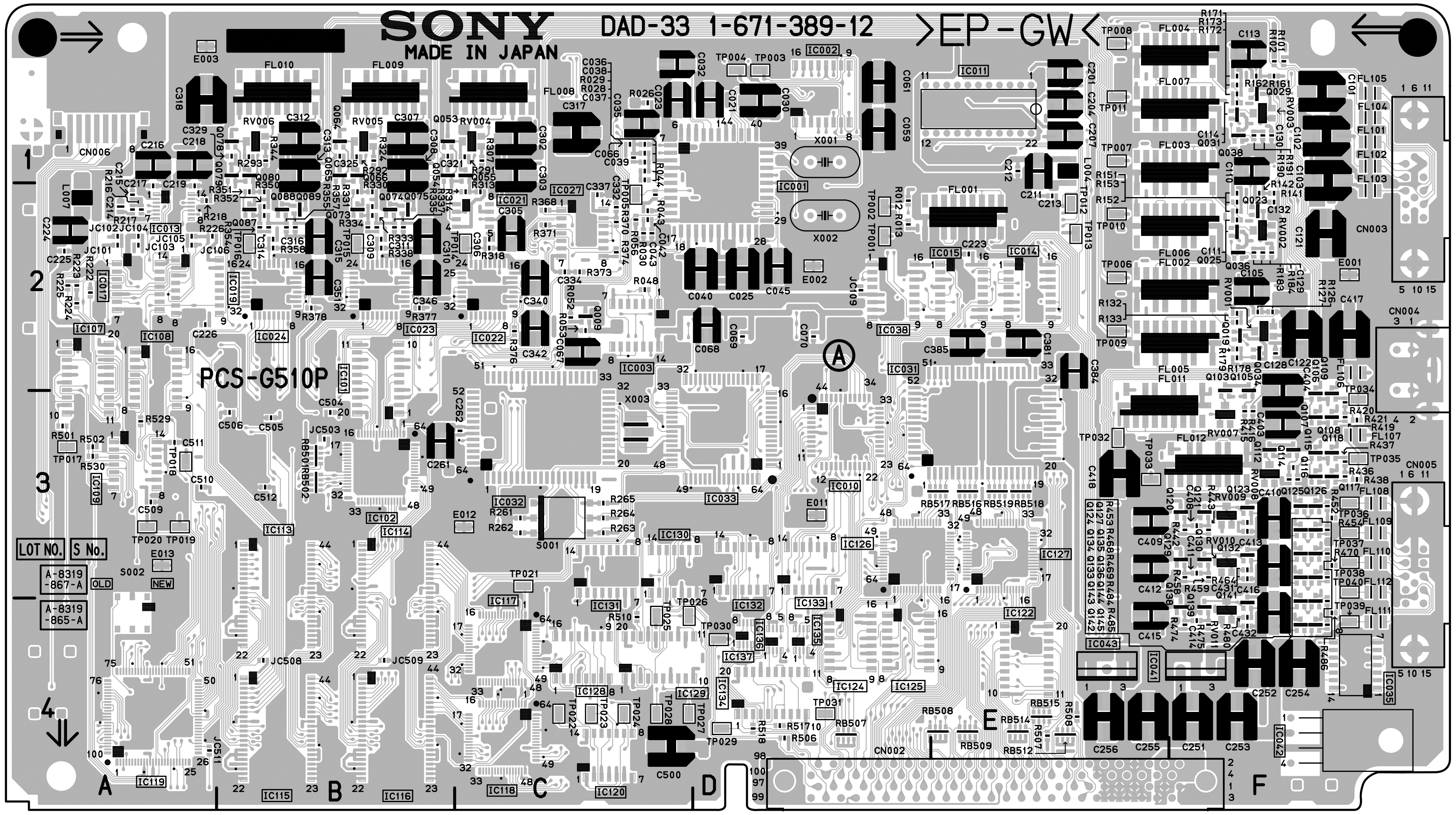
**IF-583** **-B SIDE-**
1-661-053-11
PCS-P500/P500P ; #10001-

## IF-583 (3/3); BONDING INTERFACE


IC41
TMS320C32PCM40
DIGITAL SIGNAL PROCESSOR
1TDMCK
FSB
2TDMDX
1TDMDX
CLK27M
X40
27.692MHz
CONT
VDD
GND
OUT
R41
22
C40
0.1
SYNCB
XFO
RB41
22k
CN41
12P
EMU1B
GND
EMU0B
GND
EMU2B
GND
VCC
NC
EMU3B
GND
H3B
GND
R43 22k
R44 22k
R45 22k
R46 22k
CLKR0
FSR0
DR0
CLKX0
FSX0
DX0
TCLK0
TCLK1
INT0
INT1
INT2
INT3
IACK
MCBL/MP
XF1
XF0
RESET
CLKIN
EMU0
EMU1
EMU2
EMU3
SHZ
VDDL
DVDD
IVSS
VSSL
CVSS
DVSS
VSUBS
R/W
STRB0_B0
STRB0_B1
STRB0_B2
STRB0_B3
STRB1_B0
STRB1_B1
STRB1_B2
STRB1_B3
IOSTRB
RDY
HOLD
HOLDA
PRGW
H1
H3
R47 22
RB42
R48 22
R49 22
R52 22k
R50 22
R51 22
C41 0.1
C42 0.1
C43 0.1
C44 0.1
C45 0.1
C46 0.1
C47 0.1
C48 0.1
C49 0.1
C50 0.1
IC43
M628128-20E1
IC44
M628128-20E1
IC45
M628128-20E1
IC46
M628128-20E1
CS1
CS2
WE
OE
VCC
NC
GND
IC47
* CY27C256-150JC
CN147
VPP
IC48
SN74HC377ANS
IC49
SN74HCT244ANS
IC50
SN74HCT374ANS
RB43
10k
IC42
PALCE16V8-15JC-R AP00
* CN142
I/CLK
I/O/Q
I/OE
SLEEP
XRST
D(0..7)
XBOOUTB
TOW
XBOINBRB
5V
1
2
3
4
5
A
B
C
D
E
F
G
H

**IF-583** BOARD **(3/3)**
1-661-053-01
PCS-I530 ; #10001-

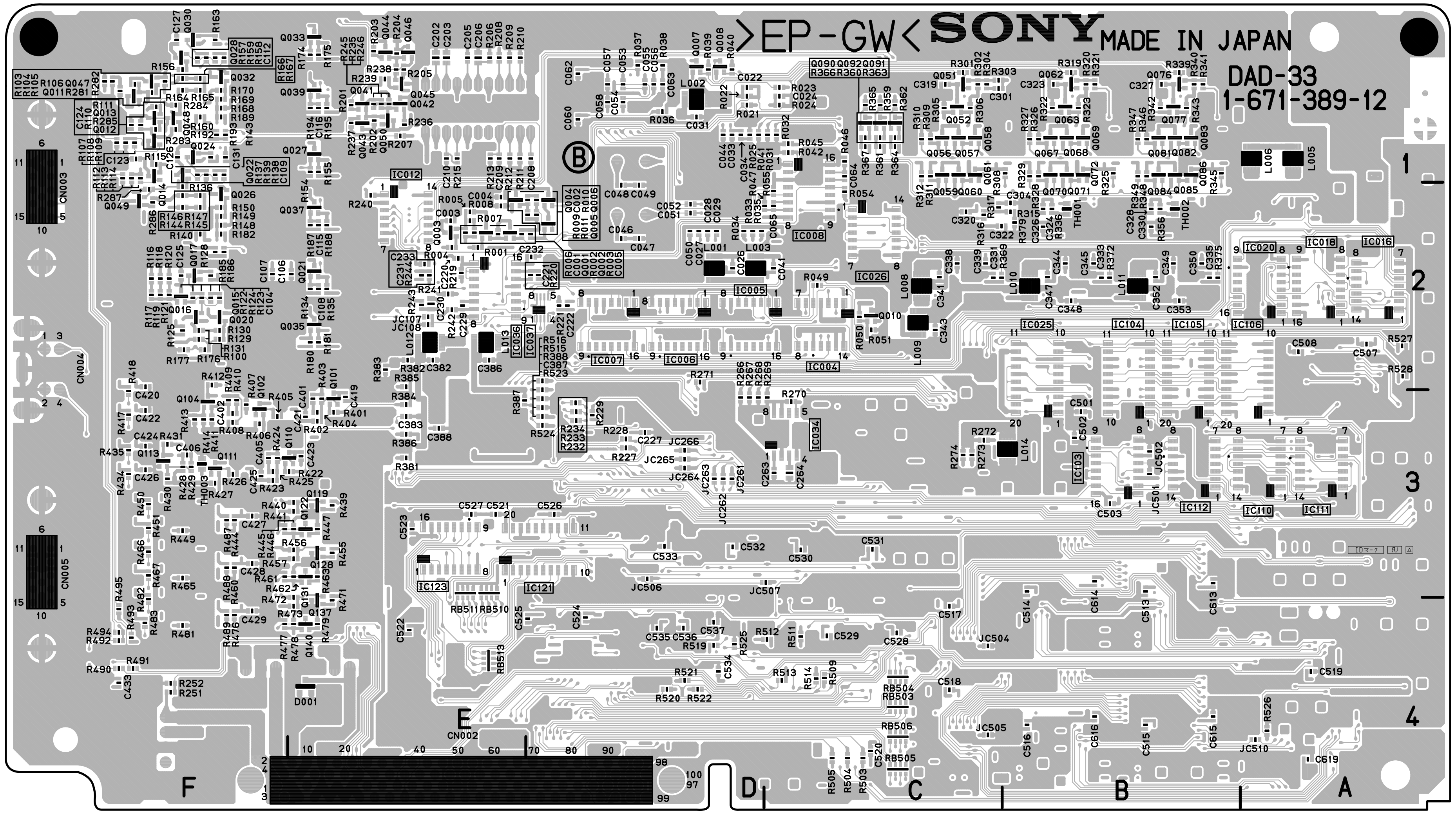
PCS-G510 (J) : SN 30041 and higher
PCS-G510 (UC) : SN 10111 and higher
PCS-G510 (CE) : SN 40171 and higher


SONY
MADE IN JAPAN
DAD-33 1-671-389-12
>EP-GW<
PCS-G510P
LOT NO.
S No.
A-8319
-867-A
OLD
A-8319
-865-A
NEW
1
2
3
4
A
B
C
D
E
F
CN002
CN003
CN004
CN005
CN006
IC001
IC002
IC003
IC010
IC011
IC013
IC014
IC015
IC017
IC019
IC021
IC022
IC023
IC024
IC027
IC031
IC032
IC033
IC035
IC036
IC041
IC042
IC043
IC101
IC102
IC107
IC108
IC109
IC113
IC114
IC115
IC116
IC117
IC118
IC119
IC120
IC122
IC124
IC125
IC126
IC127
IC128
IC129
IC130
IC131
IC132
IC133
IC134
IC135
IC136
IC137
X001
X002
X003
S001
S002

## DAD-33/33P -A SIDE-

SUFFIX: -12

6-142 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

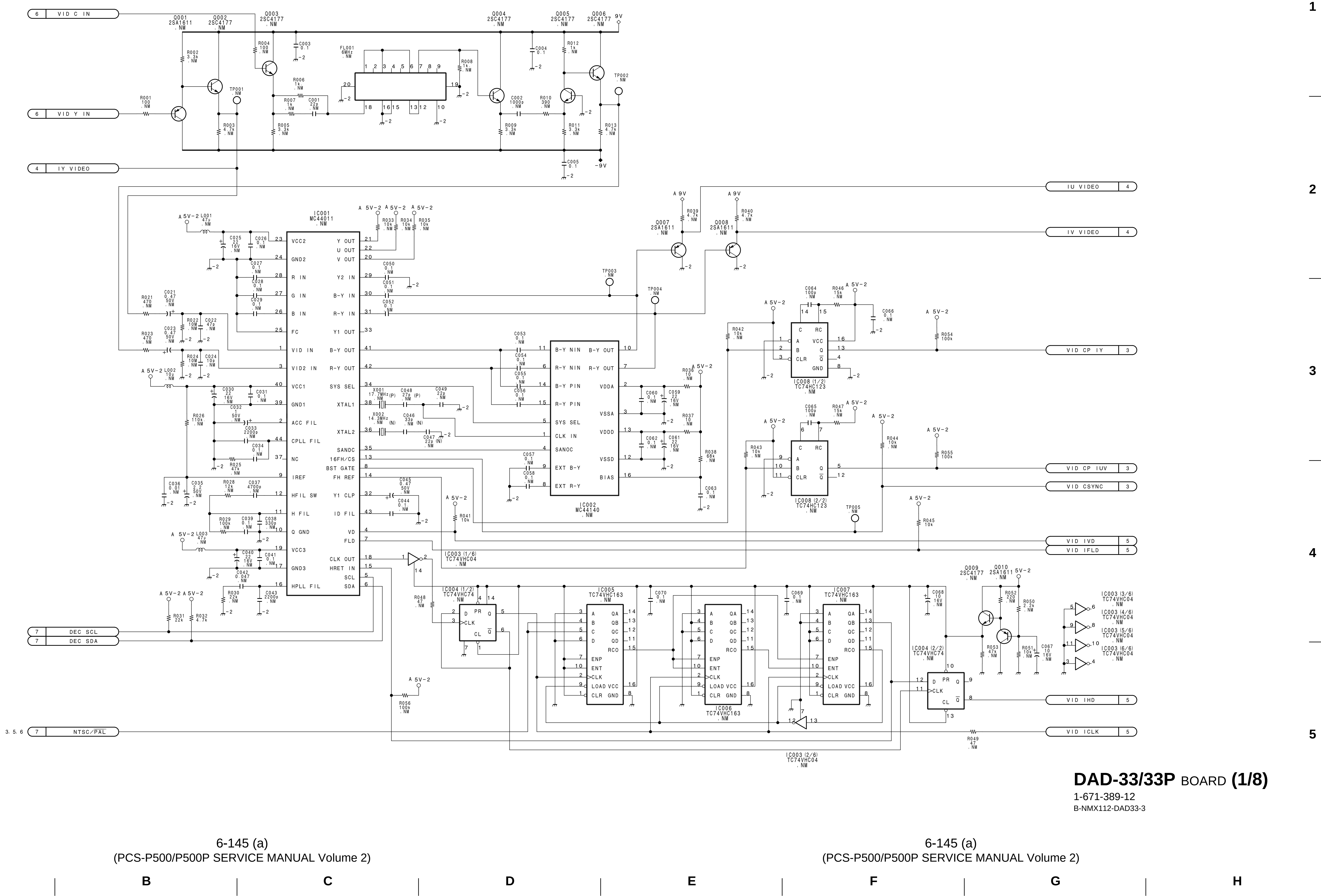

EP-GW
SONY
MADE IN JAPAN
DAD-33
1-671-389-12
CN003
CN004
CN005
CN002
1
2
3
4
A
B
C
D
E
F

**DAD-33/33P** -B SIDE-

SUFFIX: -12

|  |  |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

## DAD-33/33P (1/8); DUAL MONITOR



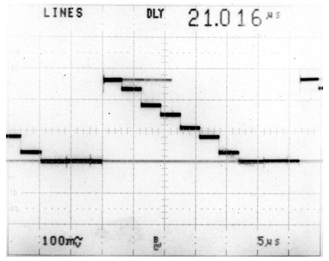
6 VID C IN
6 VID Y IN
4 IY VIDEO
IU VIDEO 4
IV VIDEO 4
VID CP IY 3
VID CP IUV 3
VID CSYNC 3
VID IVD 5
VID IFLD 5
VID IHD 5
VID ICLK 5
7 DEC SCL
7 DEC SDA
3, 5, 6 7 NTSC/PAL
Q001 2SA1611 .NM
Q002 2SC4177 .NM
Q003 2SC4177 .NM
Q004 2SC4177 .NM
Q005 2SC4177 .NM
Q006 2SC4177 .NM
Q007 2SA1611 .NM
Q008 2SA1611 .NM
Q009 2SC4177 .NM
Q010 2SA1611 .NM
FL001 6MHz .NM
9V
-9V
A 9V
A 5V-2
5V-2
IC001 MC44011 .NM
VCC2
GND2
R IN
G IN
B IN
FC
VID IN
VID2 IN
VCC1
GND1
ACC FIL
CPLL FIL
NC
IREF
HFIL SW
H FIL
Q GND
VCC3
GND3
HPLL FIL
Y OUT
U OUT
V OUT
Y2 IN
B-Y IN
R-Y IN
Y1 OUT
B-Y OUT
R-Y OUT
SYS SEL
XTAL1
XTAL2
SANDC
16FH/CS
BST GATE
FH REF
Y1 CLP
ID FIL
VD
FLD
CLK OUT
HRET IN
SCL
SDA
X001 17.7MHz .NM (P)
X002 14.3MHz .NM (N)
IC002 MC44140 .NM
B-Y NIN
R-Y NIN
B-Y PIN
R-Y PIN
SYS SEL
CLK IN
SANDC
EXT B-Y
EXT R-Y
B-Y OUT
R-Y OUT
VDDA
VSSA
VDDD
VSSD
BIAS
IC003 (1/6) TC74VHC04 .NM
IC003 (2/6) TC74VHC04 .NM
IC003 (3/6) TC74VHC04 .NM
IC003 (4/6) TC74VHC04 .NM
IC003 (5/6) TC74VHC04 .NM
IC003 (6/6) TC74VHC04 .NM
IC004 (1/2) TC74VHC74 .NM
IC004 (2/2) TC74VHC74 .NM
IC005 TC74VHC163 .NM
IC006 TC74VHC163 .NM
IC007 TC74VHC163 .NM
IC008 (1/2) TC74HC123 .NM
IC008 (2/2) TC74HC123 .NM
TP001 .NM
TP002 .NM
TP003 .NM
TP004 .NM
TP005 .NM
1
2
3
4
5
A
B
C
D
E
F
G
H

## DAD-33/33P BOARD (1/8)

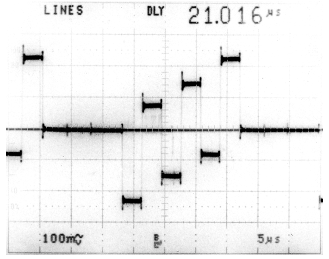
1-671-389-12

B-NMX112-DAD33-3

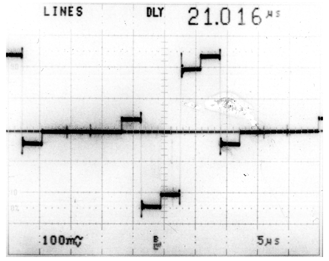
① TP6/DAD-33
④ TP9/DAD-33



② TP7/DAD-33
⑤ TP10/DAD-33

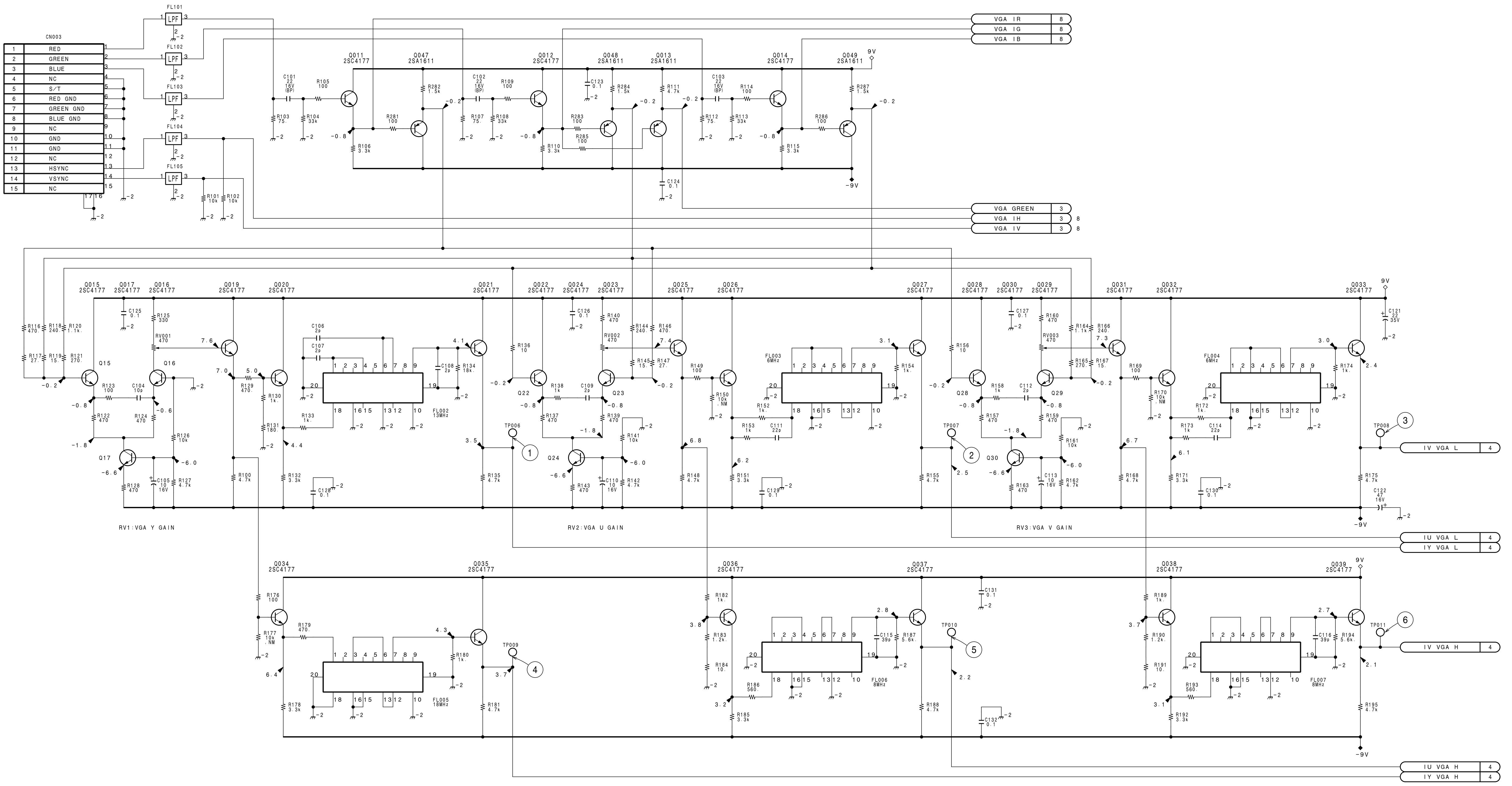


③ TP8/DAD-33
⑥ TP11/DAD-33



## DAD-33/33P (2/8); DUAL MONITOR

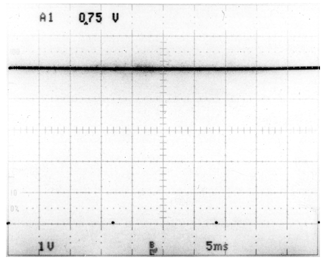
| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |


CN003
1 RED
2 GREEN
3 BLUE
4 NC
5 S/T
6 RED GND
7 GREEN GND
8 BLUE GND
9 NC
10 GND
11 GND
12 NC
13 HSYNC
14 VSYNC
15 NC
FL101 LPF
FL102 LPF
FL103 LPF
FL104 LPF
FL105 LPF
Q011 2SC4177
Q047 2SA1611
Q012 2SC4177
Q048 2SA1611
Q013 2SA1611
Q014 2SC4177
Q049 2SA1611
9V
-9V
VGA IR 8
VGA IG 8
VGA IB 8
VGA GREEN 3
VGA IH 3 8
VGA IV 3 8
RV1:VGA Y GAIN
RV2:VGA U GAIN
RV3:VGA V GAIN
FL002 13MHz
FL003 6MHz
FL004 6MHz
FL005 18MHz
FL006 8MHz
FL007 8MHz
TP006
TP007
TP008
TP009
TP010
TP011
IV VGA L 4
IU VGA L 4
IY VGA L 4
IV VGA H 4
IU VGA H 4
IY VGA H 4
1
2
3
4
5
A
B
C
D
E
F
G
H

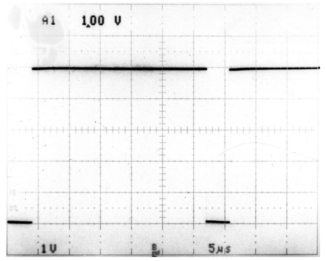
**DAD-33/33P** BOARD **(2/8)**
1-671-389-12
B-NMX112-DAD33-3

DAD-33/33P (3/8)

① TP12/DAD-33



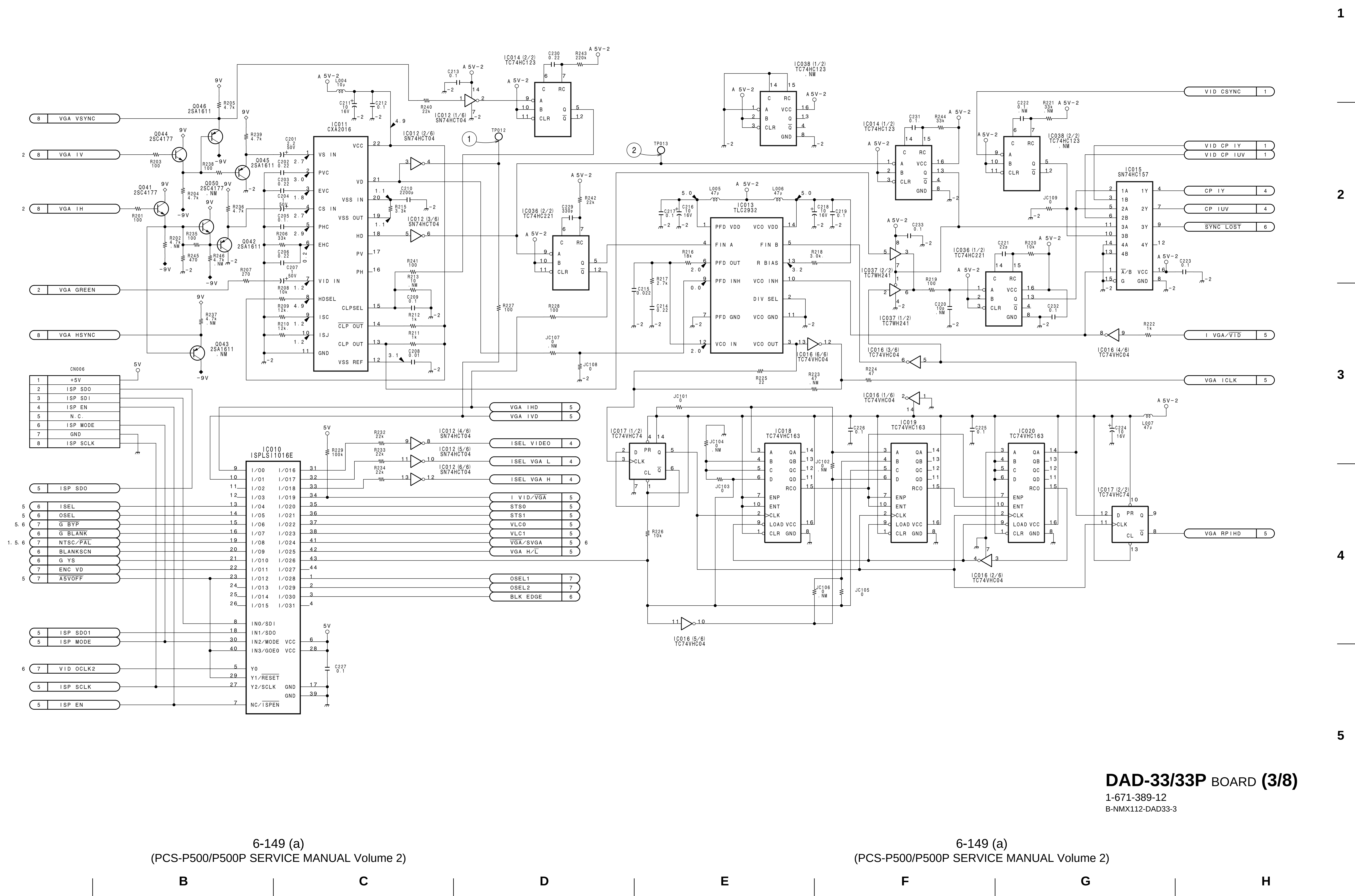
② TP13/DAD-33



6-148 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

## DAD-33/33P (3/8); DUAL MONITOR

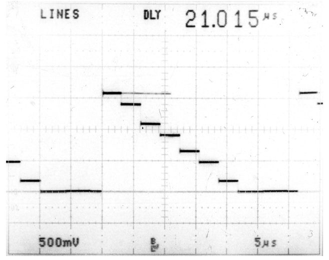

1
2
3
4
5
A
B
C
D
E
F
G
H
VGA VSYNC
VGA IV
VGA IH
VGA GREEN
VGA HSYNC
CN006
+5V
ISP SDO
ISP SDI
ISP EN
N.C.
ISP MODE
GND
ISP SCLK
ISEL
OSEL
G BYP
G BLANK
NTSC/PAL
BLANKSCN
G YS
ENC VD
A5VOFF
ISP SDO1
VID OCLK2
IC010 ISPLSI1016E
IC011 CXA2016
IC012 SN74HCT04
IC013 TLC2932
IC014 TC74HC123
IC015 SN74HC157
IC016 TC74VHC04
IC017 TC74VHC74
IC018 TC74VHC163
IC019 TC74VHC163
IC020 TC74VHC163
IC036 TC74HC221
IC037 TC7WH241
IC038 TC74HC123
Q041 2SC4177
Q042 2SA1611
Q043 2SA1611
Q044 2SC4177
Q045 2SA1611
Q046 2SA1611
Q050 2SC4177
TP012
TP013
VGA IHD
VGA IVD
ISEL VIDEO
ISEL VGA L
ISEL VGA H
I VID/VGA
STS0
STS1
VLC0
VLC1
VGA/SVGA
VGA H/L
OSEL1
OSEL2
BLK EDGE
VID CSYNC
VID CP IY
VID CP IUV
CP IY
CP IUV
SYNC LOST
I VGA/VID
VGA ICLK
VGA RPIHD
A 5V-2
9V
-9V
5V

# DAD-33/33P BOARD (3/8)

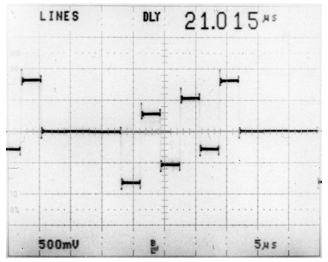
1-671-389-12
B-NMX112-DAD33-3

DAD-33/33P (4/8)

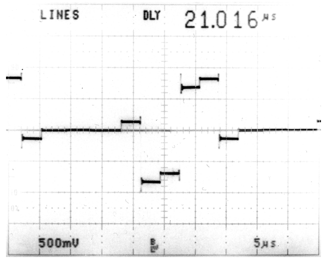
① TP14/DAD-33



② TP15/DAD-33



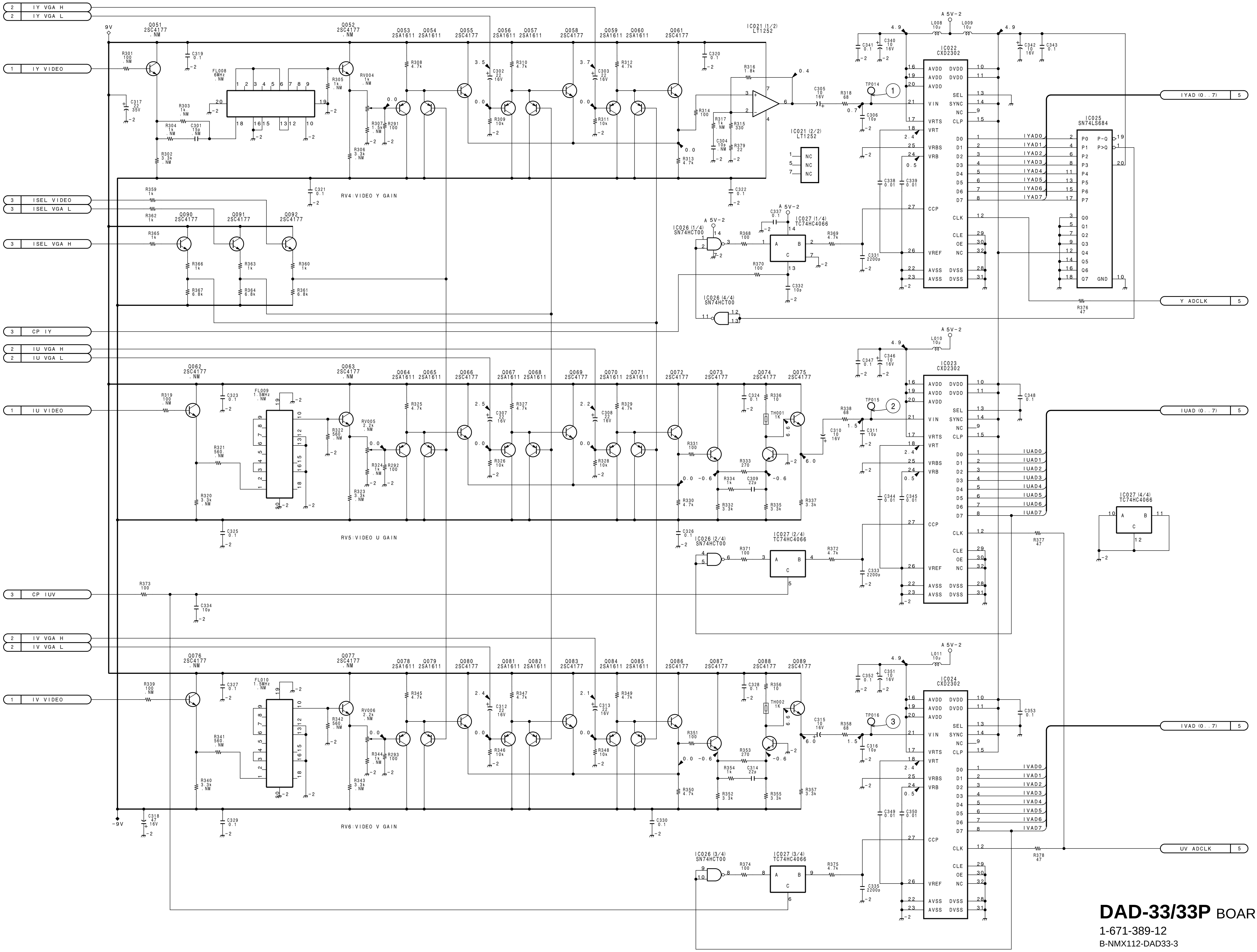
③ TP16/DAD-33



6-150 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

## DAD-33/33P (4/8); DUAL MONITOR


IY VGA H
IY VGA L
IY VIDEO
ISEL VIDEO
ISEL VGA L
ISEL VGA H
CP IY
IU VGA H
IU VGA L
IU VIDEO
CP IUV
IV VGA H
IV VGA L
IV VIDEO
9V
-9V
A 5V-2
IC021 (1/2) LT1252
IC021 (2/2) LT1252
IC022 CXD2302
IC023 CXD2302
IC024 CXD2302
IC025 SN74LS684
IC026 (1/4) SN74HCT00
IC026 (2/4) SN74HCT00
IC026 (3/4) SN74HCT00
IC026 (4/4) SN74HCT00
IC027 (1/4) TC74HC4066
IC027 (2/4) TC74HC4066
IC027 (3/4) TC74HC4066
IC027 (4/4) TC74HC4066
FL008 6MHz
FL009 1.5MHz
FL010 1.5MHz
RV4:VIDEO Y GAIN
RV5:VIDEO U GAIN
RV6:VIDEO V GAIN
IYAD (0..7)
Y ADCLK
IUAD (0..7)
IVAD (0..7)
UV ADCLK
AVDD
DVDD
SEL
VIN
SYNC
NC
CLP
VRTS
VRT
VRBS
VRB
CCP
CLK
CLE
OE
VREF
AVSS
DVSS
D0
D1
D2
D3
D4
D5
D6
D7
P-Q
P>Q
GND
1
2
3
4
5
A
B
C
D
E
F
G
H

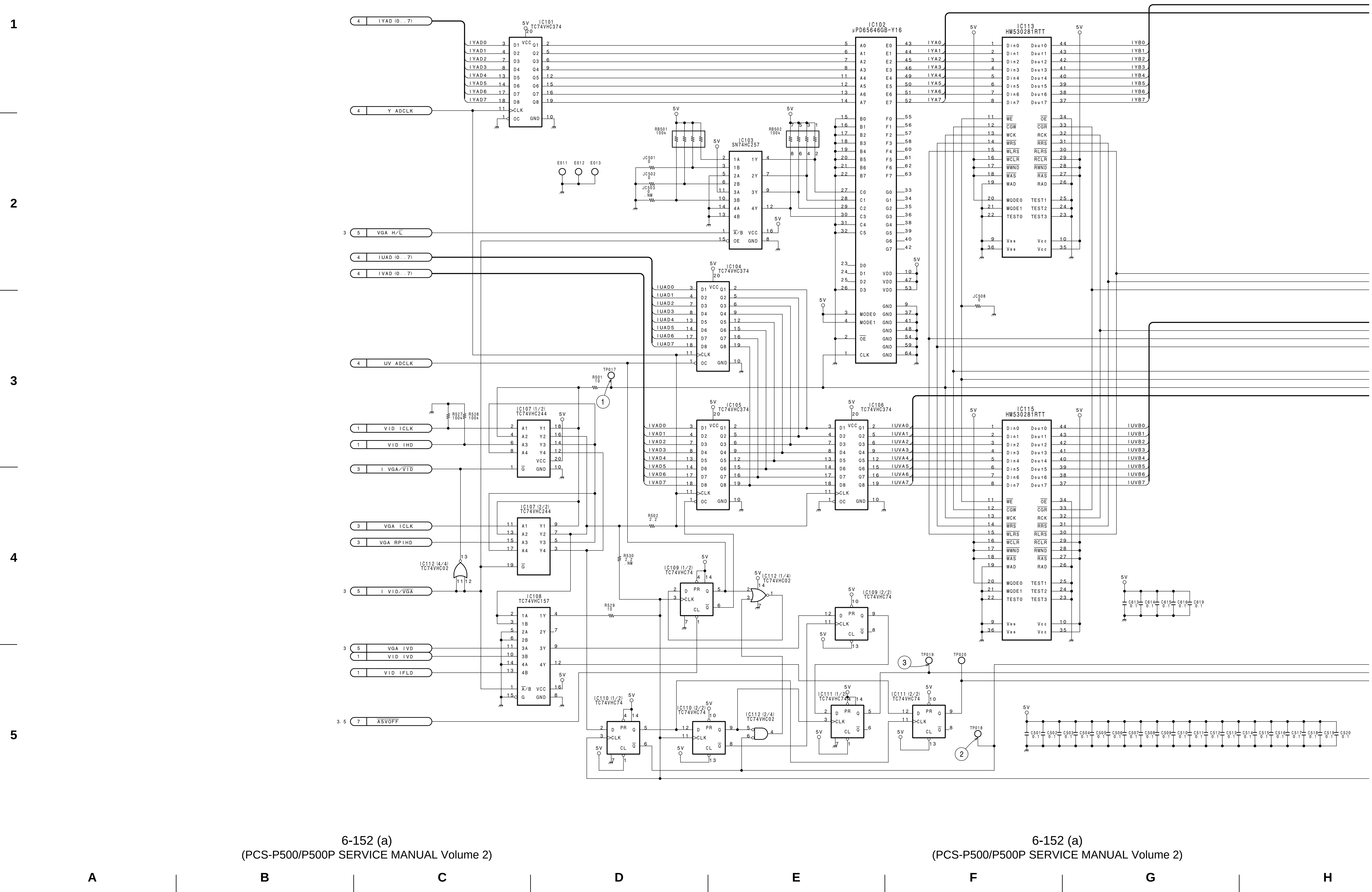
**DAD-33/33P** BOARD **(4/8)**

1-671-389-12

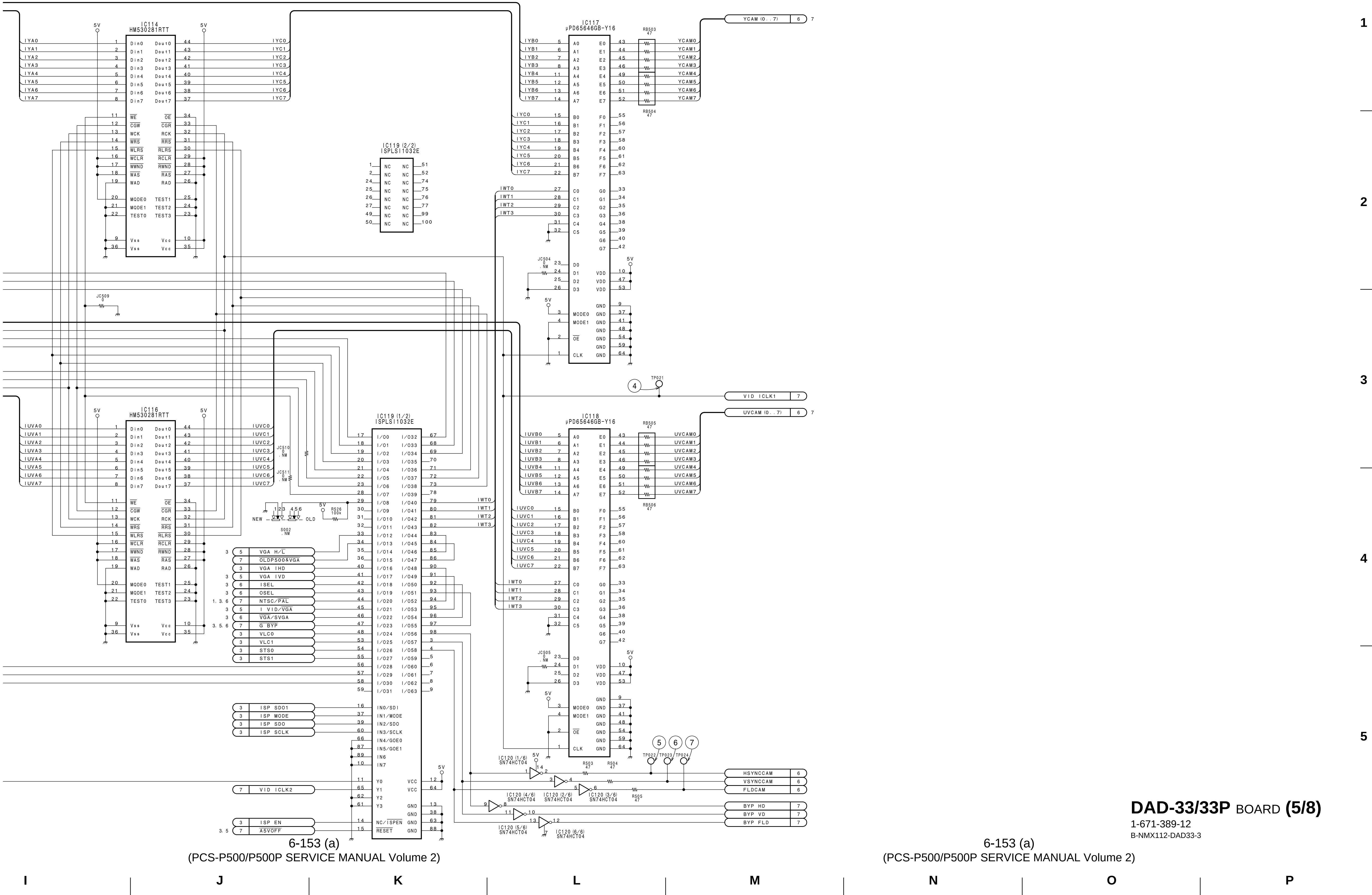
B-NMX112-DAD33-3

6-151 (a) (PCS-P500/P500P SERVICE MANUAL Volume 2)

## DAD-33/33P (5/8); DUAL MONITOR


1
2
3
4
5
A
B
C
D
E
F
G
H
IYAD (0..7)
Y ADCLK
VGA H/L
IUAD (0..7)
IVAD (0..7)
UV ADCLK
VID ICLK
VID IHD
I VGA/VID
VGA ICLK
VGA RPIHD
I VID/VGA
VGA IVD
VID IVD
VID IFLD
A5VOFF
IC101 TC74VHC374
IC102 μPD65646GB-Y16
IC103 SN74HC257
IC104 TC74VHC374
IC105 TC74VHC374
IC106 TC74VHC374
IC107 (1/2) TC74VHC244
IC107 (2/2) TC74VHC244
IC108 TC74VHC157
IC109 (1/2) TC74VHC74
IC109 (2/2) TC74VHC74
IC110 (1/2) TC74VHC74
IC110 (2/2) TC74VHC74
IC111 (1/2) TC74VHC74
IC111 (2/2) TC74VHC74
IC112 (1/4) TC74VHC02
IC112 (2/4) TC74VHC02
IC112 (4/4) TC74VHC02
IC113 HM530281RTT
IC115 HM530281RTT
RB501 100k
RB502 100k
JC501
JC502
JC503 NM
JC508
E011
E012
E013
TP017
TP018
TP019
TP020
R501 10
R502 22
R527 100k
R528 100k
R529 10
R530 22 NM
IYB0
IYB1
IYB2
IYB3
IYB4
IYB5
IYB6
IYB7
IUVB0
IUVB1
IUVB2
IUVB3
IUVB4
IUVB5
IUVB6
IUVB7
IYA0
IYA7
IUVA0
IUVA7
C501
C520
C613
C619
5V

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

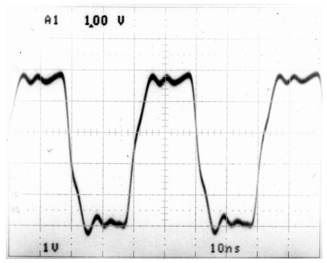

IC114
HM530281RTT
IC116
HM530281RTT
IC117
μPD65646GB-Y16
IC118
μPD65646GB-Y16
IC119 (1/2)
ISPLSI1032E
IC119 (2/2)
ISPLSI1032E
IC120 (1/6) SN74HCT04
IC120 (2/6) SN74HCT04
IC120 (3/6) SN74HCT04
IC120 (4/6) SN74HCT04
IC120 (5/6) SN74HCT04
IC120 (6/6) SN74HCT04
RB503 47
RB504 47
RB505 47
RB506 47
R503 47
R504 47
R505 47
R526 100k
JC504 0 .NM
JC505 0 .NM
JC509 0
JC510 0 .NM
JC511 0 .NM
S002 .NM
NEW
OLD
5V
TP021
TP022
TP023
TP024
YCAM (0..7)
VID ICLK1
UVCAM (0..7)
HSYNCCAM
VSYNCCAM
FLDCAM
BYP HD
BYP VD
BYP FLD
VGA H/L
OLDP500&VGA
VGA IHD
VGA IVD
ISEL
OSEL
NTSC/PAL
I VID/VGA
VGA/SVGA
G BYP
VLC0
VLC1
STS0
STS1
ISP SDO1
ISP MODE
ISP SDO
ISP SCLK
VID ICLK2
ISP EN
A5VOFF
1
2
3
4
5
I
J
K
L
M
N
O
P

## DAD-33/33P BOARD (5/8)

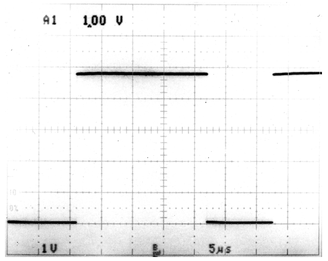
1-671-389-12

B-NMX112-DAD33-3

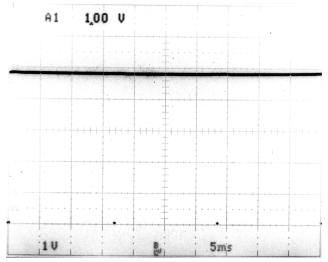
① TP17/DAD-33



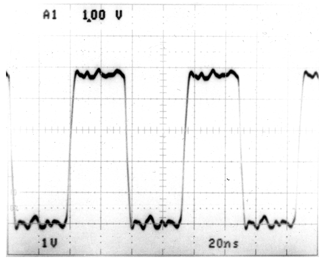
② TP18/DAD-33



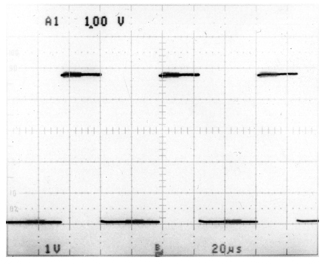
③ TP19/DAD-33



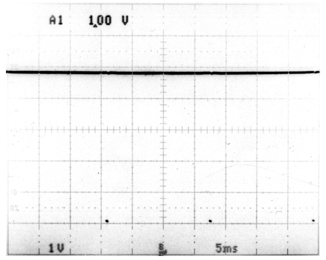
④ TP21/DAD-33



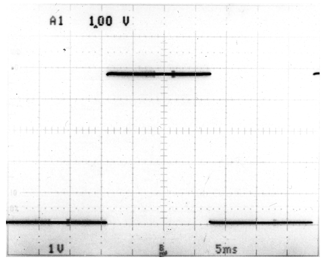
⑤ TP22/DAD-33



⑥ TP23/DAD-33

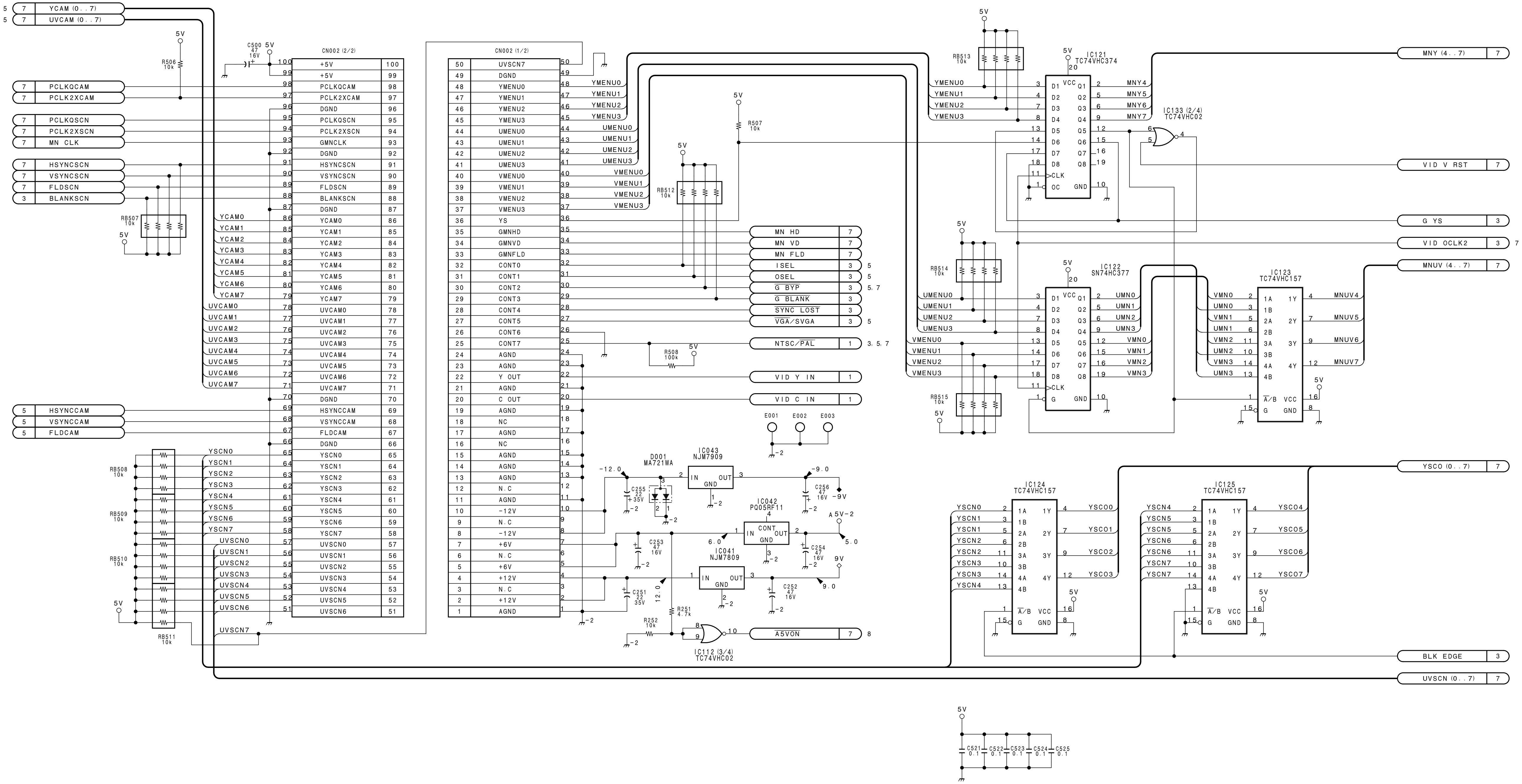


⑦ TP24/DAD-33



## DAD-33/33P (6/8); DUAL MONITOR

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

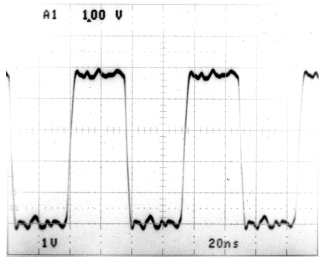

YCAM (0..7)
UVCAM (0..7)
PCLKQCAM
PCLK2XCAM
PCLKQSCN
PCLK2XSCN
MN CLK
HSYNCSCN
VSYNCSCN
FLDSCN
BLANKSCN
HSYNCCAM
VSYNCCAM
FLDCAM
CN002 (2/2)
CN002 (1/2)
RB506 10k
RB507 10k
RB508 10k
RB509 10k
RB510 10k
RB511 10k
RB512 10k
RB513 10k
RB514 10k
RB515 10k
C500 47 16V
R507 10k
R508 100k
IC121 TC74VHC374
IC122 SN74HC377
IC123 TC74VHC157
IC124 TC74VHC157
IC125 TC74VHC157
IC133 (2/4) TC74VHC02
IC112 (3/4) TC74VHC02
IC043 NJM7909
IC042 PQ05RF11
IC041 NJM7809
D001 MA721WA
C255 22 35V
C256 47 16V
C253 47 16V
C254 47 16V
C251 22 35V
C252 47 16V
R251 4.7k
R252 10k
E001
E002
E003
MNY (4..7)
VID V RST
G YS
VID OCLK2
MNUV (4..7)
MN HD
MN VD
MN FLD
ISEL
OSEL
G BYP
G BLANK
SYNC LOST
VGA/SVGA
NTSC/PAL
VID Y IN
VID C IN
A5VON
YSCO (0..7)
BLK EDGE
UVSCN (0..7)
C521 0.1
C522 0.1
C523 0.1
C524 0.1
C525 0.1
-12.0
-9.0
-9V
6.0
5.0
A5V-2
9V
9.0
12.0
1
2
3
4
5
A
B
C
D
E
F
G
H

**DAD-33/33P** BOARD **(6/8)**
1-671-389-12
B-NMX112-DAD33-3

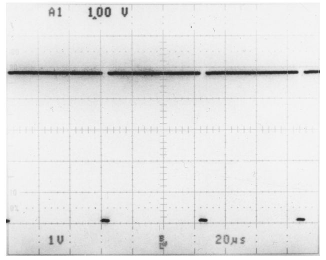
6-155 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

DAD-33/33P (7/8)

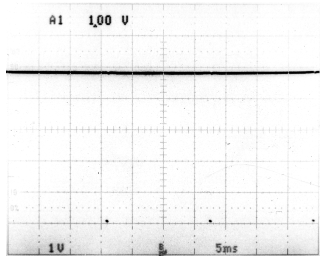
① TP25/DAD-33



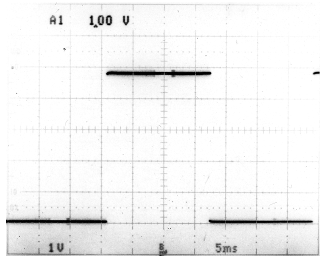
② TP26/DAD-33



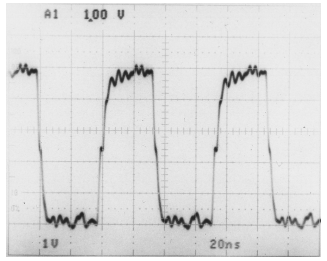
③ TP27/DAD-33



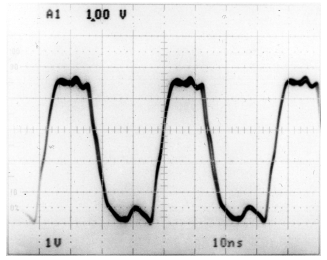
④ TP28/DAD-33



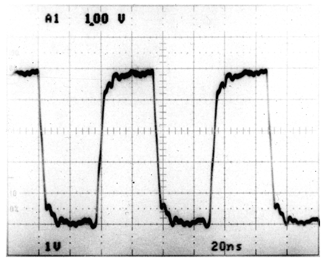
⑤ TP29/DAD-33



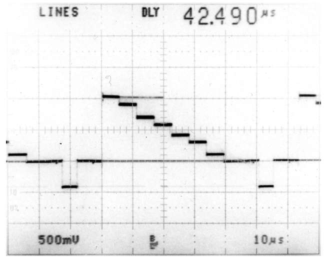
⑥ TP30/DAD-33



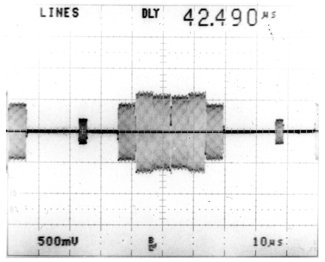
⑦ TP31/DAD-33



⑧ TP32/DAD-33

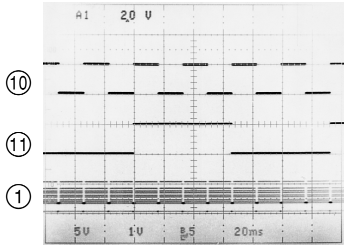


⑨ TP33/DAD-33



## For NTSC (DAD-33)

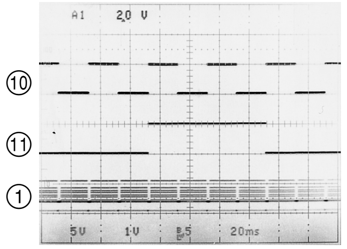
⑩ IC31-52 pin/DAD-33
⑪ IC132-9 pin/DAD-33
① TP34/DAD-33 Page 6-159 (a)



NTSC: 100/7.5/75/0 COLOR BAR

## For PAL (DAD-33P)

⑩ IC31-52 pin/DAD-33P
⑪ IC132-9 pin/DAD-33P
① TP34/DAD-33P Page 6-159 (a)

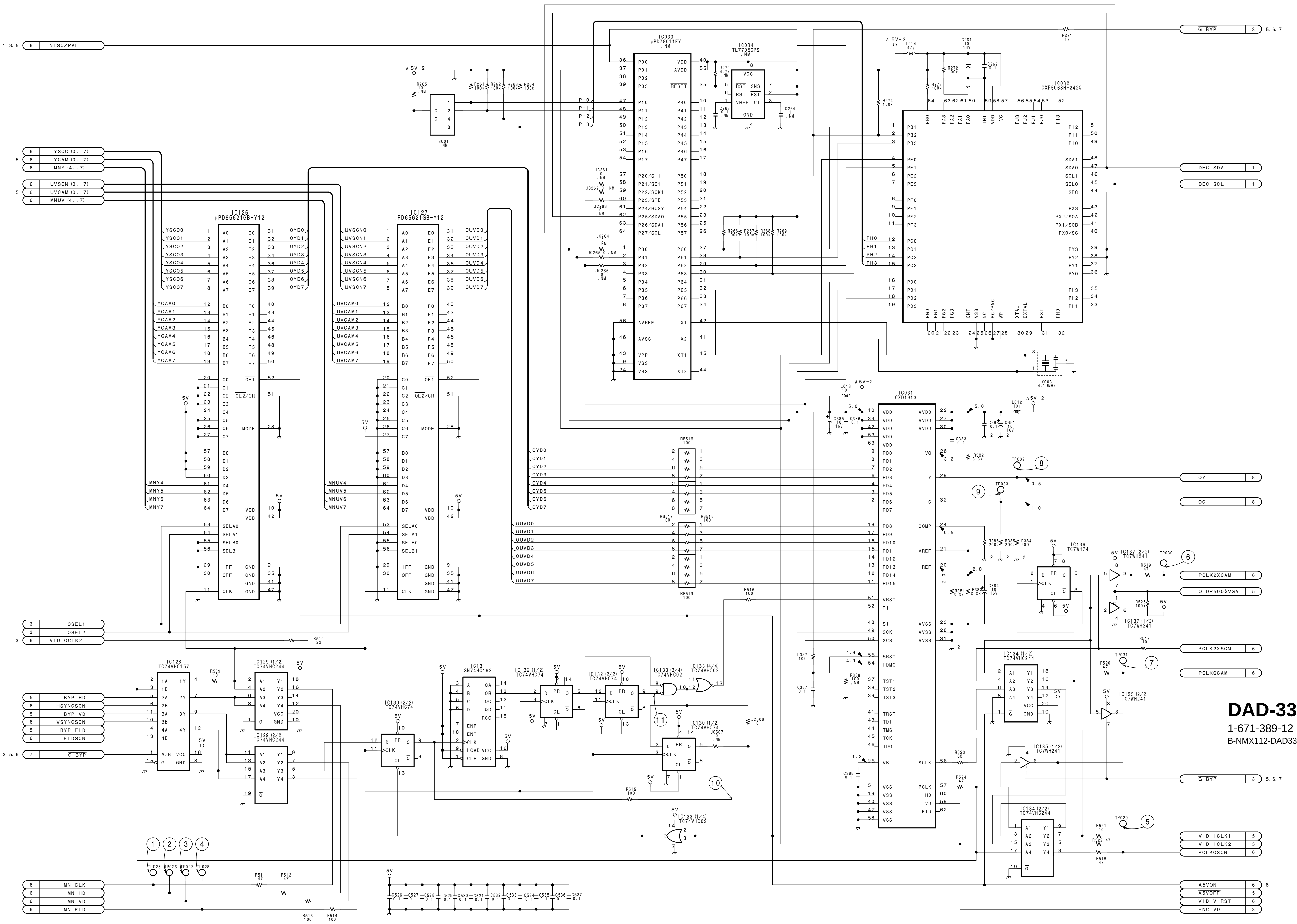


PAL: 100/0/75/0 COLOR BAR

6-156 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

## DAD-33/33P (7/8); DUAL MONITOR


NTSC/PAL
YSCO (0 . 7)
YCAM (0 . 7)
MNY (4 . 7)
UVSCN (0 . 7)
UVCAM (0 . 7)
MNUV (4 . 7)
IC126 μPD65621GB-Y12
IC127 μPD65621GB-Y12
IC033 μPD78011FY -NM
IC034 TL7705CPS -NM
IC032 CXP5068H-242Q
IC031 CXD1913
IC128 TC74VHC157
IC129 (1/2) TC74VHC244
IC129 (2/2) TC74VHC244
IC130 (2/2) TC74VHC74
IC130 (1/2) TC74VHC74
IC131 SN74HC163
IC132 (1/2) TC74VHC74
IC132 (2/2) TC74VHC74
IC133 (3/4) TC74VHC02
IC133 (4/4) TC74VHC02
IC133 (1/4) TC74VHC02
IC134 (1/2) TC74VHC244
IC134 (2/2) TC74VHC244
IC135 (1/2) TC7WH241
IC135 (2/2) TC7WH241
IC136 TC7WH74
IC137 (1/2) TC7WH241
IC137 (2/2) TC7WH241
S001 -NM
X003 4.19MHz
RB516
RB517
RB518
RB519
G BYP
DEC SDA
DEC SCL
OY
OC
PCLK2XCAM
OLDP500AVGA
PCLK2XSCN
PCLKQCAM
VID ICLK1
VID ICLK2
PCLKQSCN
ASVON
ASVOFF
VID V RST
ENC VD
OSEL1
OSEL2
VID OCLK2
BYP HD
HSYNCSCN
BYP VD
VSYNCSCN
BYP FLD
FLDSCN
MN CLK
MN HD
MN VD
MN FLD
TP025
TP026
TP027
TP028
TP029
TP030
TP031
TP032
TP033
A 5V-2
5V

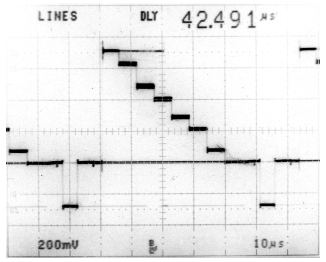
## DAD-33/33P BOARD (7/8)

1-671-389-12
B-NMX112-DAD33-3

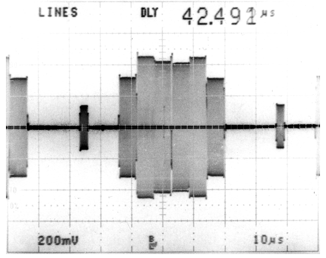
## DAD-33/33P (8/8)

DAD-33/33P (8/8)

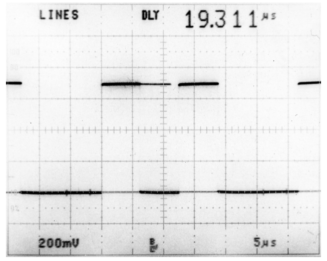
① TP34/DAD-33



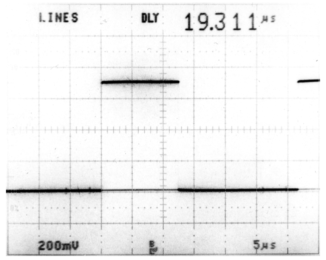
② TP35/DAD-33



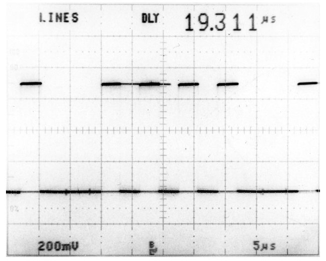
③ TP36/DAD-33



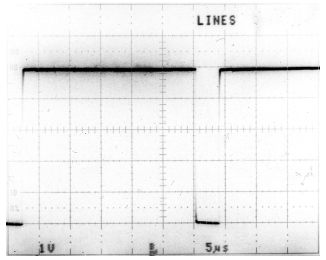
④ TP37/DAD-33



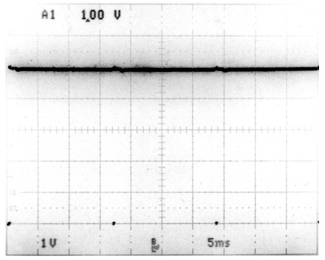
⑤ TP38/DAD-33



⑥ TP39/DAD-33



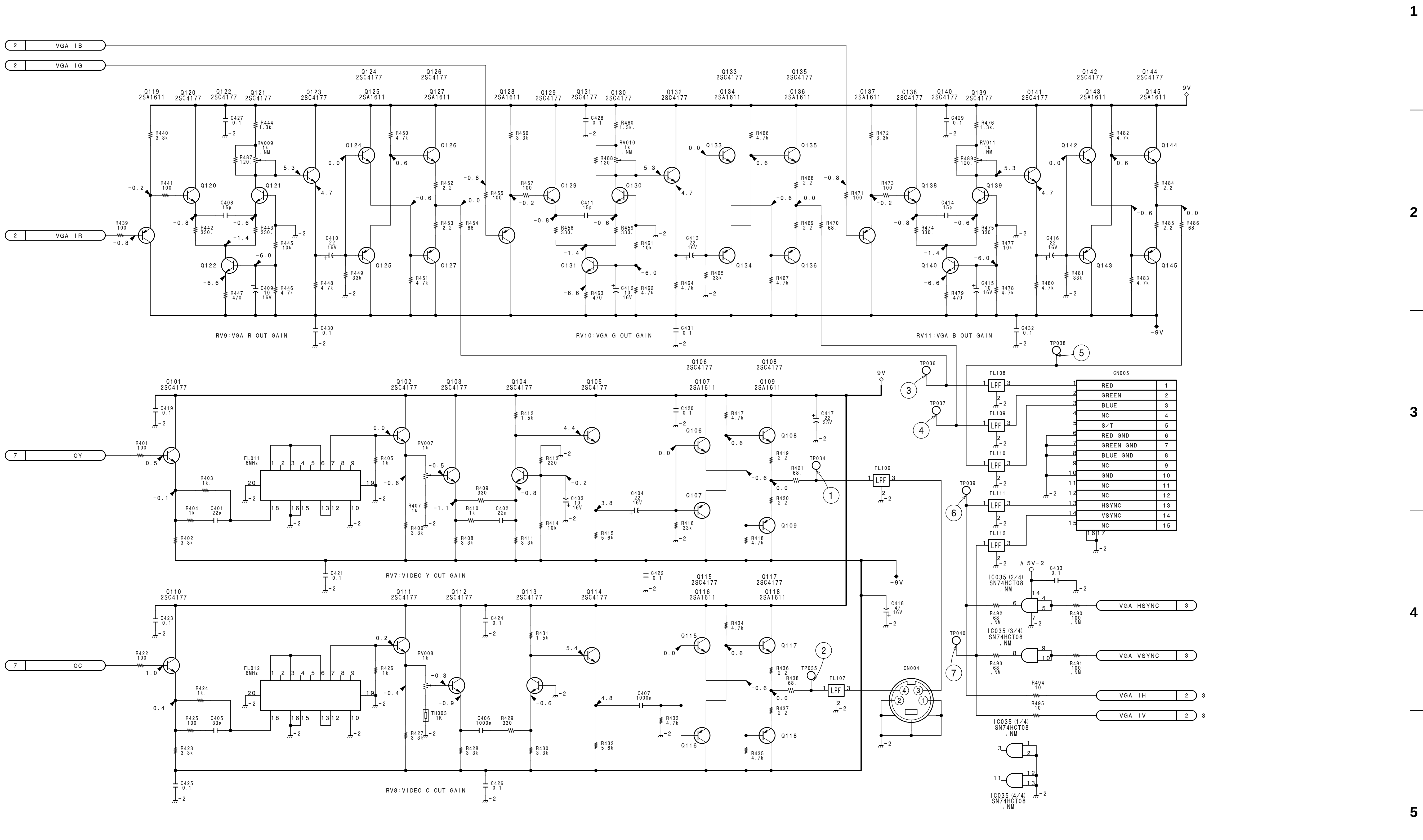
⑦ TP40/DAD-33



6-158 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30041 and higher |
| PCS-G510 (UC) ; | S/N 10111 and higher |
| PCS-G510 (CE) ; | S/N 40171 and higher |

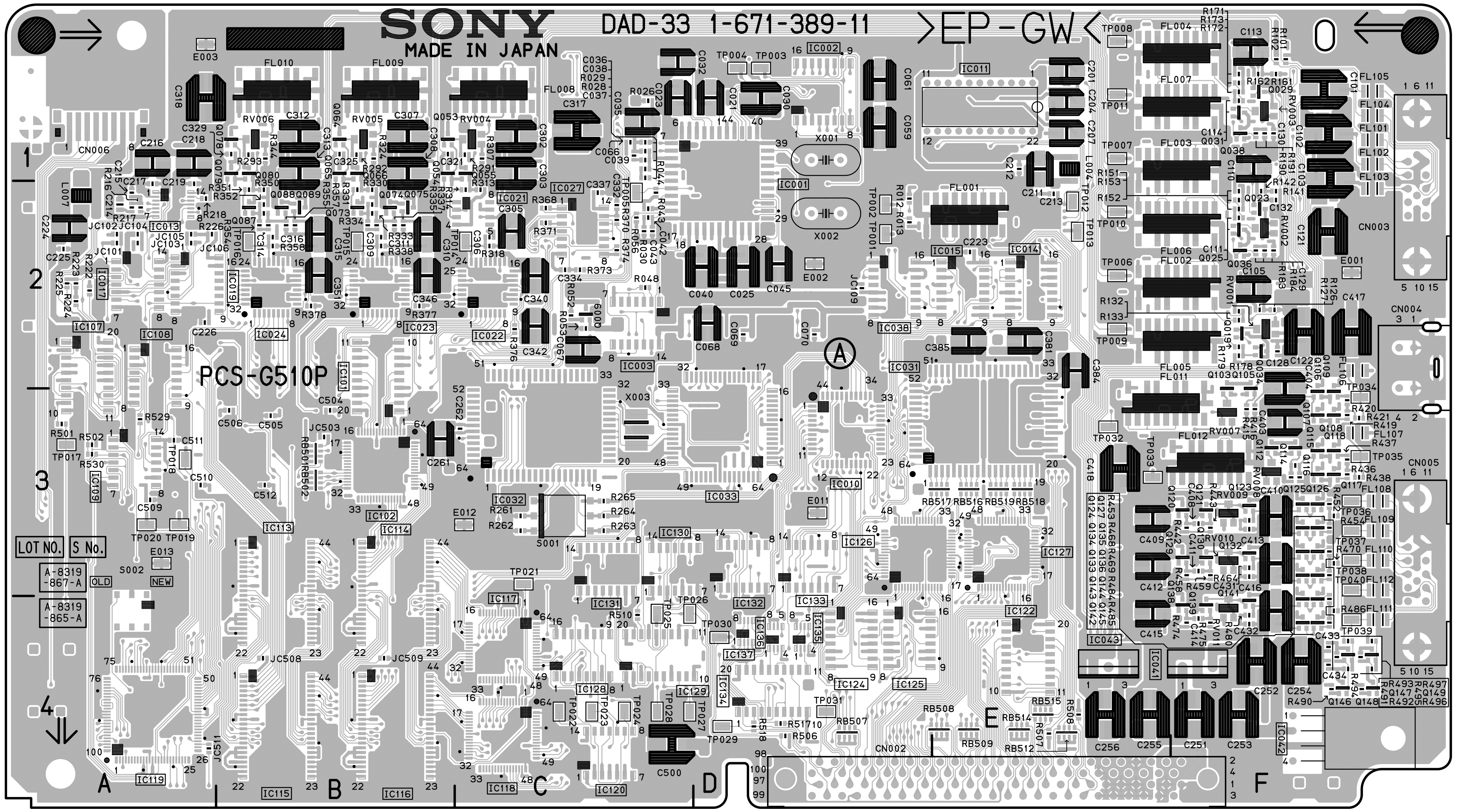
## DAD-33/33P (8/8); DUAL MONITOR


1
2
3
4
5
VGA IB
VGA IG
VGA IR
OY
OC
Q119 2SA1611
Q120 2SC4177
Q122 2SC4177
Q121 2SC4177
Q123 2SC4177
Q124 2SC4177
Q125 2SA1611
Q126 2SC4177
Q127 2SA1611
Q128 2SA1611
Q129 2SC4177
Q131 2SC4177
Q130 2SC4177
Q132 2SC4177
Q133 2SC4177
Q134 2SA1611
Q135 2SC4177
Q136 2SA1611
Q137 2SA1611
Q138 2SC4177
Q140 2SC4177
Q139 2SC4177
Q141 2SC4177
Q142 2SC4177
Q143 2SA1611
Q144 2SC4177
Q145 2SA1611
9V
-9V
RV009 1k .NM
RV010 1k .NM
RV011 1k .NM
RV9:VGA R OUT GAIN
RV10:VGA G OUT GAIN
RV11:VGA B OUT GAIN
Q101 2SC4177
Q102 2SC4177
Q103 2SC4177
Q104 2SC4177
Q105 2SC4177
Q106 2SC4177
Q107 2SA1611
Q108 2SC4177
Q109 2SA1611
FL011 6MHz
RV007 1k
RV7:VIDEO Y OUT GAIN
Q110 2SC4177
Q111 2SC4177
Q112 2SC4177
Q113 2SC4177
Q114 2SC4177
Q115 2SC4177
Q116 2SA1611
Q117 2SC4177
Q118 2SA1611
FL012 6MHz
RV008 1k
TH003 1K
RV8:VIDEO C OUT GAIN
TP034
TP035
TP036
TP037
TP038
TP039
TP040
FL106
FL107
FL108
FL109
FL110
FL111
FL112
LPF
CN004
CN005
1 RED
2 GREEN
3 BLUE
4 NC
5 S/T
6 RED GND
7 GREEN GND
8 BLUE GND
9 NC
10 GND
11 NC
12 NC
13 HSYNC
14 VSYNC
15 NC
A 5V-2
IC035 (2/4) SN74HCT08 .NM
IC035 (3/4) SN74HCT08 .NM
IC035 (1/4) SN74HCT08 .NM
IC035 (4/4) SN74HCT08 .NM
VGA HSYNC
VGA VSYNC
VGA IH
VGA IV
A
B
C
D
E
F
G
H

**DAD-33/33P** BOARD **(8/8)**
1-671-389-12
B-NMX112-DAD33-3

6-159 (a)
(PCS-P500/P500P SERVICE MANUAL Volume 2)

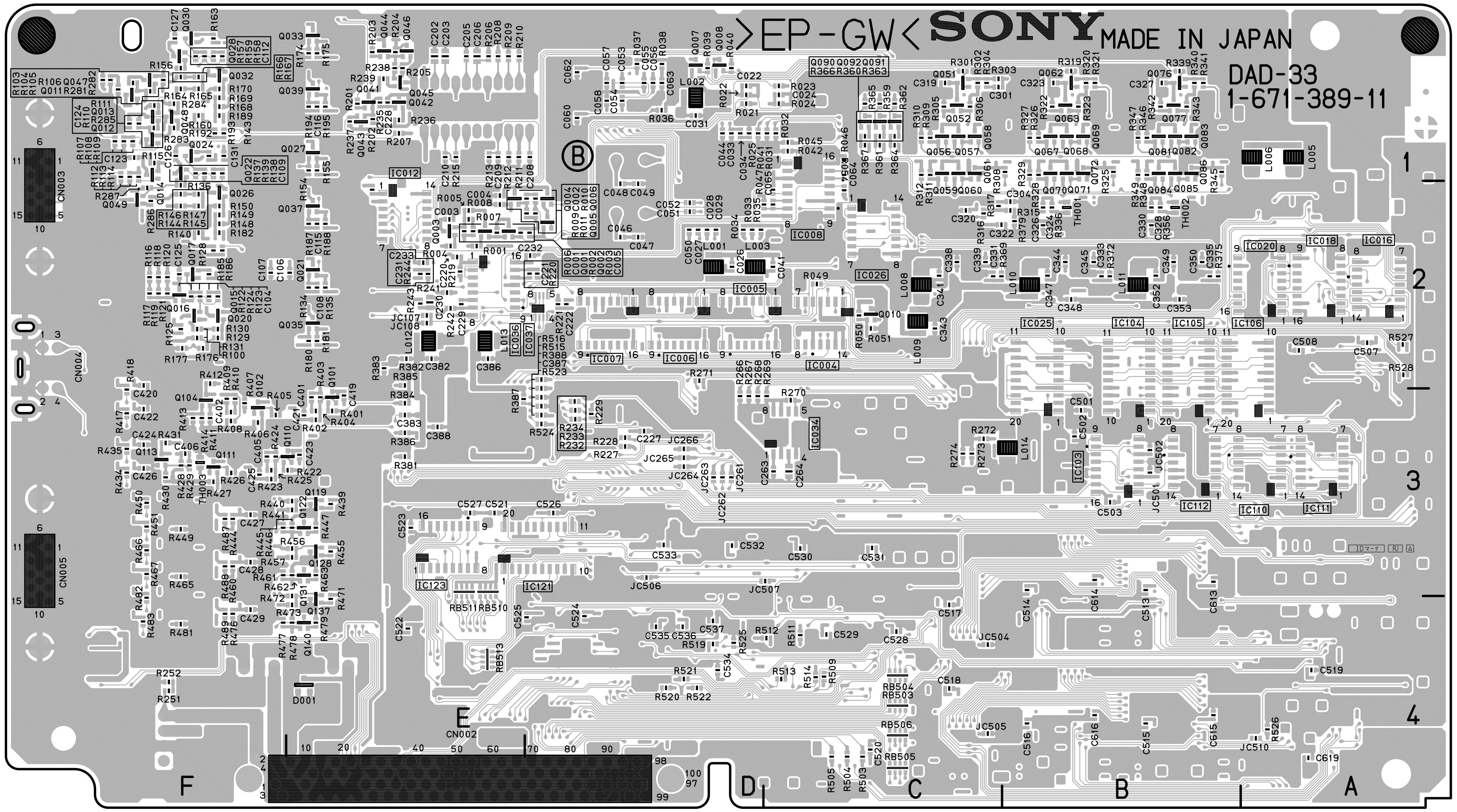
PCS-G510 (J) : SN 30001 through 30040
PCS-G510 (UC) : SN 10001 through 10110
PCS-G510 (CE) : SN 40001 through 40170


SONY
MADE IN JAPAN
DAD-33 1-671-389-11
EP-GW
PCS-G510P
LOT NO.
S No.
A-8319
-867-A
OLD
A-8319
-865-A
NEW
1
2
3
4
A
B
C
D
E
F
CN002
CN003
CN004
CN005
CN006

**DAD-33/33P** **-A SIDE-**

SUFFIX: -11

http://getMANUAL.com

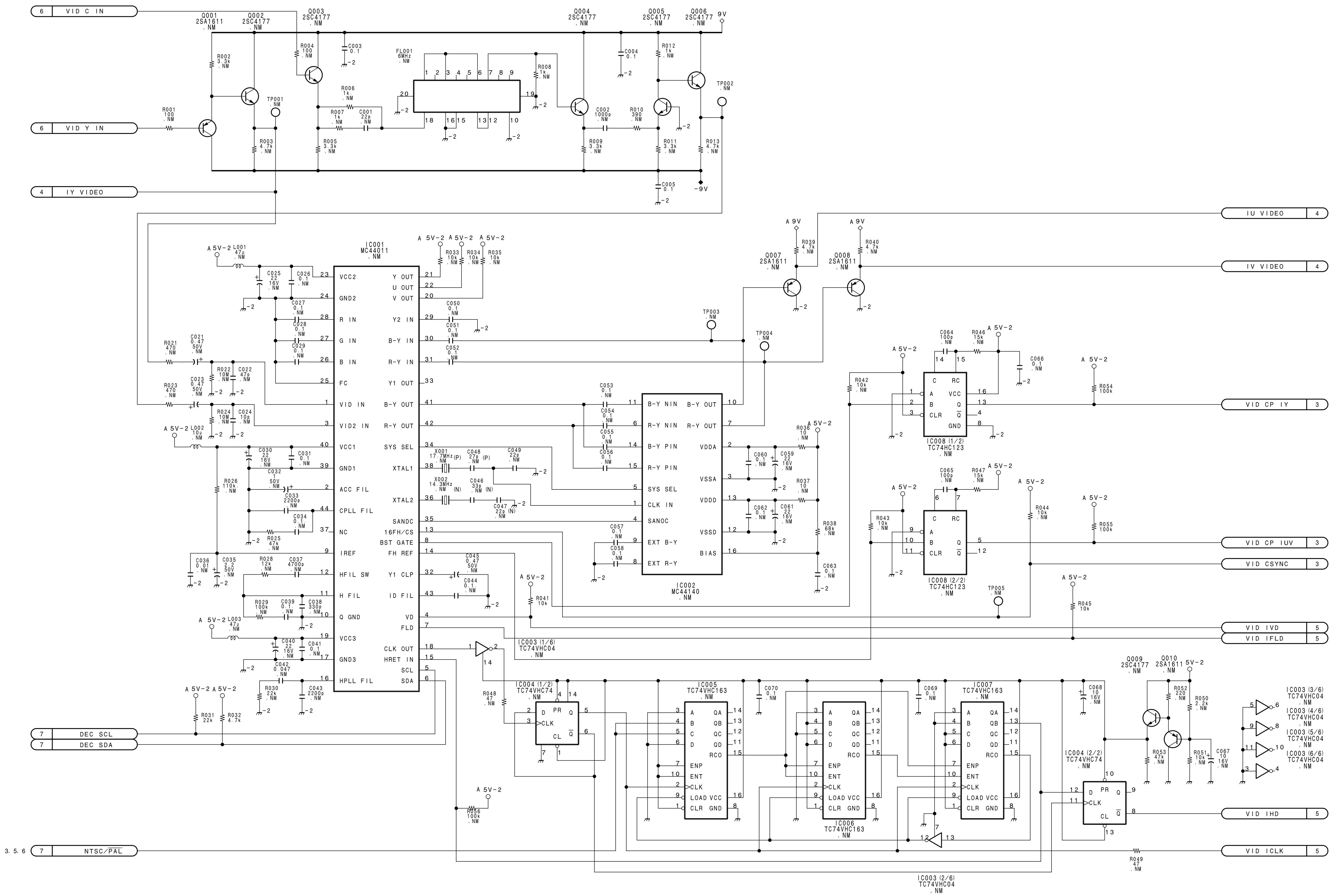

>EP-GW<
SONY
MADE IN JAPAN
DAD-33
1-671-389-11
CN002
CN003
CN004
CN005
1
2
3
4
A
B
C
D
E
F

**DAD-33/33P -B SIDE-**

SUFFIX: -11

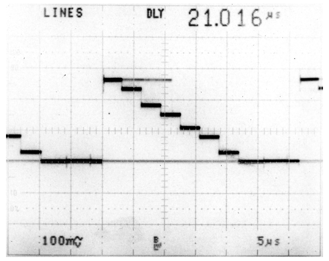
| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

## DAD-33/33P (1/8); DUAL MONITOR

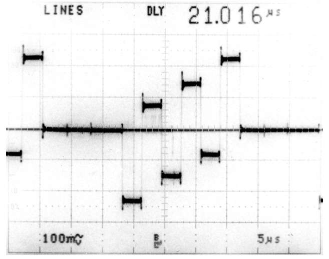

6 VID C IN
6 VID Y IN
4 IY VIDEO
7 DEC SCL
7 DEC SDA
3, 5, 6 7 NTSC/PAL
Q001 2SA1611 . NM
Q002 2SC4177 . NM
Q003 2SC4177 . NM
Q004 2SC4177 . NM
Q005 2SC4177 . NM
Q006 2SC4177 . NM
9V
-9V
FL001 6MHz . NM
TP001 . NM
TP002 . NM
IC001 MC44011 . NM
VCC2
GND2
R IN
G IN
B IN
FC
VID IN
VID2 IN
VCC1
GND1
ACC FIL
CPLL FIL
NC
IREF
HFIL SW
H FIL
Q GND
VCC3
GND3
HPLL FIL
Y OUT
U OUT
V OUT
Y2 IN
B-Y IN
R-Y IN
Y1 OUT
B-Y OUT
R-Y OUT
SYS SEL
XTAL1
XTAL2
SANDC
16FH/CS
BST GATE
FH REF
Y1 CLP
ID FIL
VD
FLD
CLK OUT
HRET IN
SCL
SDA
X001 17.7MHz (P)
X002 14.3MHz (N)
A 5V-2
IC002 MC44140 . NM
B-Y NIN
R-Y NIN
B-Y PIN
R-Y PIN
SYS SEL
CLK IN
SANDC
EXT B-Y
EXT R-Y
VDDA
VSSA
VDDD
VSSD
BIAS
TP003 . NM
TP004 . NM
TP005 . NM
A 9V
Q007 2SA1611 . NM
Q008 2SA1611 . NM
IU VIDEO 4
IV VIDEO 4
IC008 (1/2) TC74HC123 . NM
IC008 (2/2) TC74HC123 . NM
VID CP IY 3
VID CP IUV 3
VID CSYNC 3
VID IVD 5
VID IFLD 5
IC003 (1/6) TC74VHC04 . NM
IC004 (1/2) TC74VHC74 . NM
IC005 TC74VHC163 . NM
IC006 TC74VHC163 . NM
IC007 TC74VHC163 . NM
IC003 (2/6) TC74VHC04 . NM
IC004 (2/2) TC74VHC74 . NM
Q009 2SC4177 . NM
Q010 2SA1611 . NM
5V-2
IC003 (3/6) TC74VHC04 . NM
IC003 (4/6) TC74VHC04 . NM
IC003 (5/6) TC74VHC04 . NM
IC003 (6/6) TC74VHC04 . NM
VID IHD 5
VID ICLK 5
1
2
3
4
5
A
B
C
D
E
F
G
H

**DAD-33/33P** BOARD **(1/8)**
1-671-389-11
B-NMX112-DAD33-2

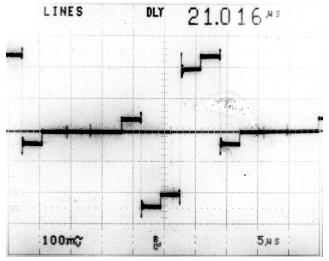
① TP6/DAD-33
④ TP9/DAD-33



② TP7/DAD-33
⑤ TP10/DAD-33

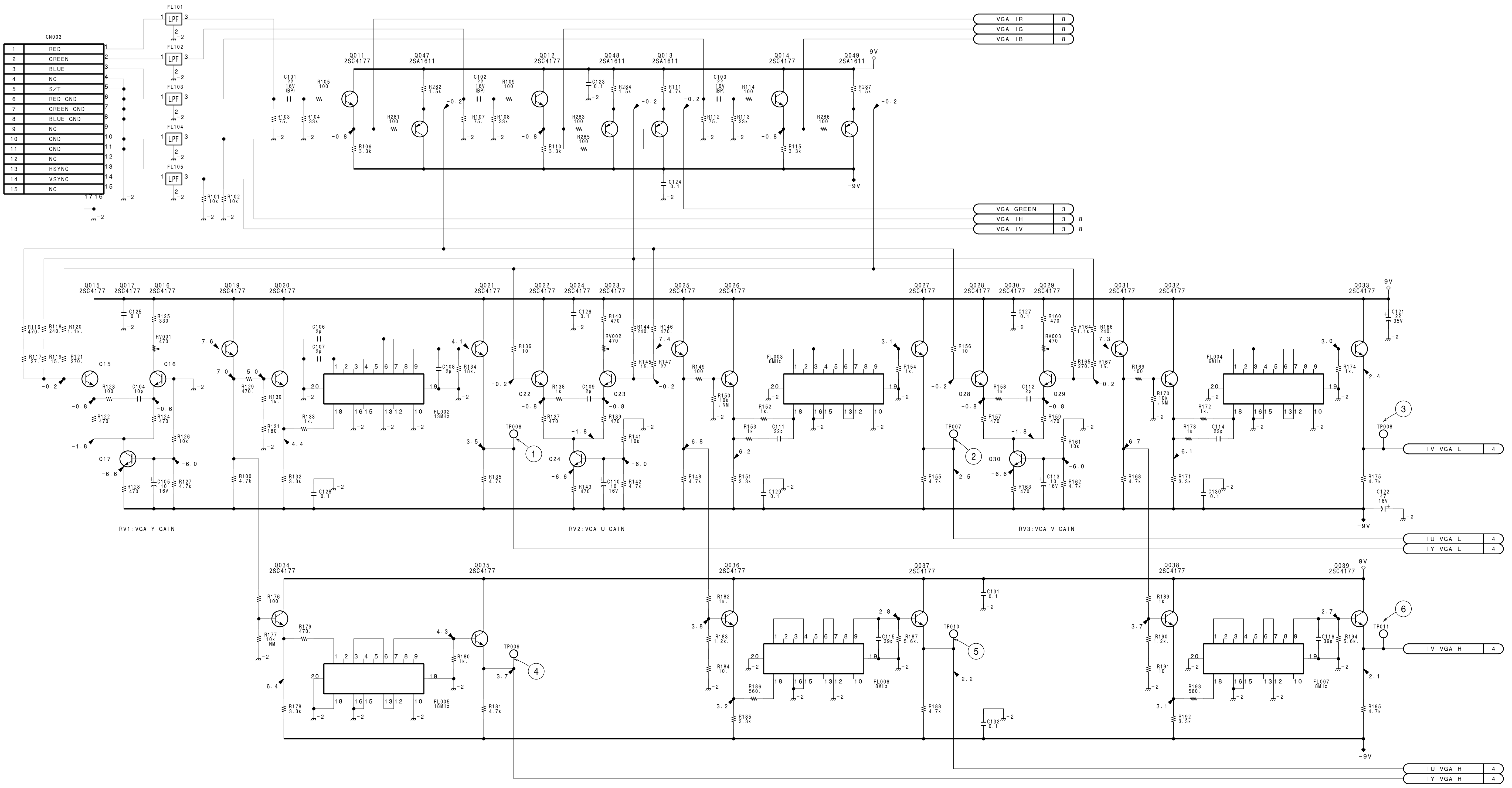


③ TP8/DAD-33
⑥ TP11/DAD-33



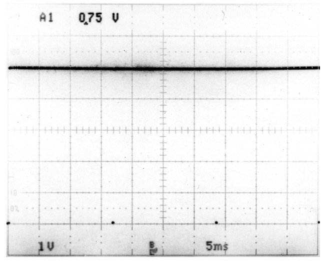
| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

## DAD-33/33P (2/8); DUAL MONITOR

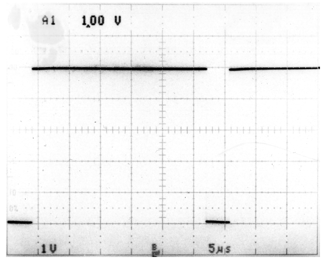

CN003
1 RED
2 GREEN
3 BLUE
4 NC
5 S/T
6 RED GND
7 GREEN GND
8 BLUE GND
9 NC
10 GND
11 GND
12 NC
13 HSYNC
14 VSYNC
15 NC
FL101
FL102
FL103
FL104
FL105
LPF
Q011 2SC4177
Q047 2SA1611
Q012 2SC4177
Q048 2SA1611
Q013 2SA1611
Q014 2SC4177
Q049 2SA1611
9V
-9V
VGA IR 8
VGA IG 8
VGA IB 8
VGA GREEN 3
VGA IH 3
VGA IV 3
Q015 2SC4177
Q017 2SC4177
Q016 2SC4177
Q019 2SC4177
Q020 2SC4177
Q021 2SC4177
Q022 2SC4177
Q024 2SC4177
Q023 2SC4177
Q025 2SC4177
Q026 2SC4177
Q027 2SC4177
Q028 2SC4177
Q030 2SC4177
Q029 2SC4177
Q031 2SC4177
Q032 2SC4177
Q033 2SC4177
FL002 13MHz
FL003 6MHz
FL004 6MHz
RV1:VGA Y GAIN
RV2:VGA U GAIN
RV3:VGA V GAIN
TP006
TP007
TP008
IV VGA L 4
IU VGA L 4
IY VGA L 4
Q034 2SC4177
Q035 2SC4177
Q036 2SC4177
Q037 2SC4177
Q038 2SC4177
Q039 2SC4177
FL005 18MHz
FL006 8MHz
FL007 8MHz
TP009
TP010
TP011
IV VGA H 4
IU VGA H 4
IY VGA H 4
1
2
3
4
5
6
A
B
C
D
E
F
G
H

**DAD-33/33P** BOARD **(2/8)**
1-671-389-11
B-NMX112-DAD33-2

① TP12/DAD-33

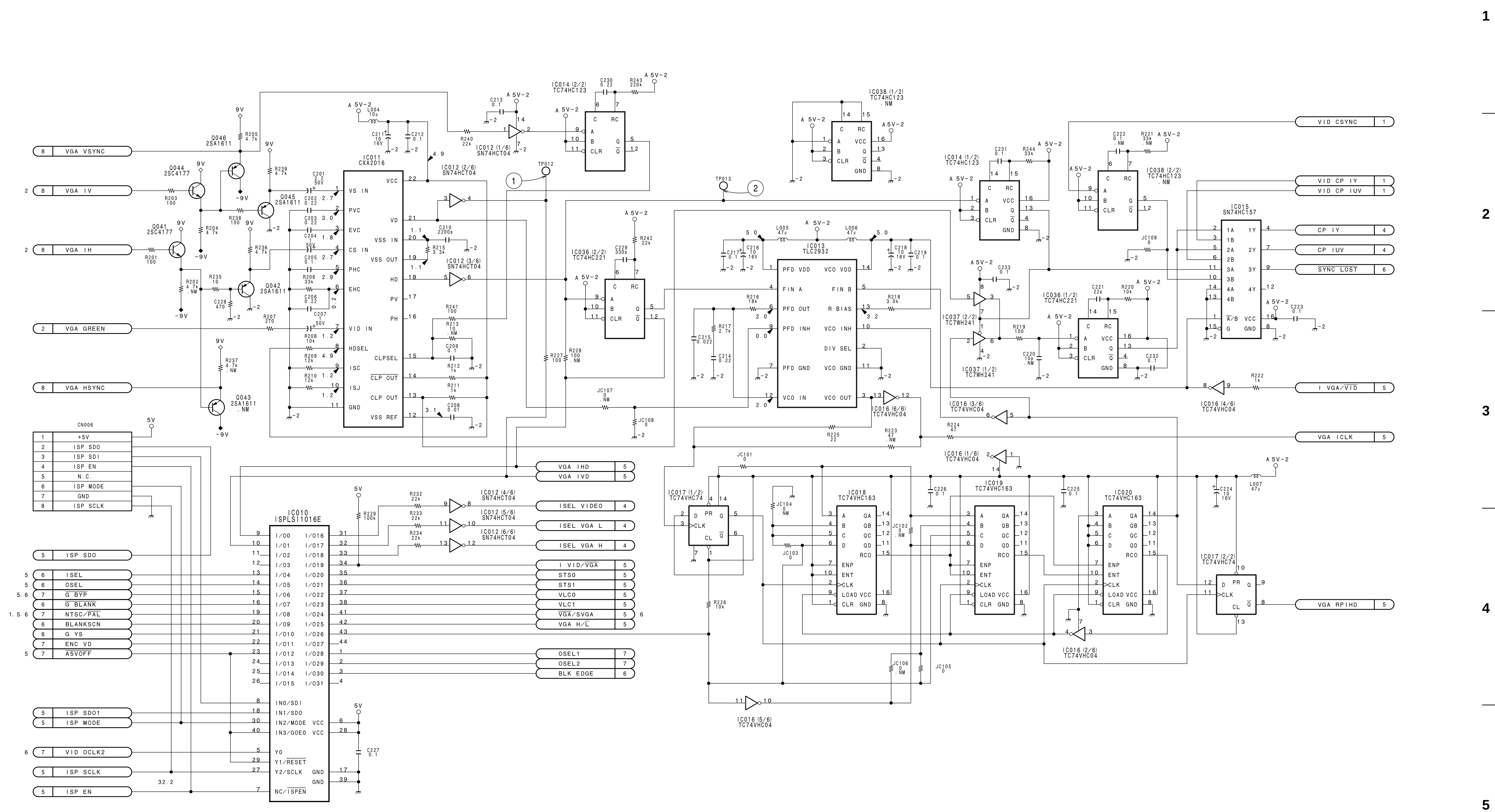


② TP13/DAD-33



## DAD-33/33P (3/8); DUAL MONITOR

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |


1
2
3
4
5
VGA VSYNC
VGA IV
VGA IH
VGA GREEN
VGA HSYNC
Q046 2SA1611
Q044 2SC4177
Q045 2SA1611
Q041 2SC4177
Q042 2SA1611
Q043 2SA1611 .NM
IC011 CXA2016
VS IN
PVC
EVC
CS IN
PHC
EHC
VID IN
HDSEL
ISC
ISJ
GND
VCC
VD
VSS IN
VSS OUT
HD
PV
PH
CLPSEL
CLP OUT
CLP OUT
VSS REF
L004 10µ
A 5V-2
9V
-9V
IC012 (1/6) SN74HCT04
IC012 (2/6) SN74HCT04
IC012 (3/6) SN74HCT04
TP012
TP013
IC014 (2/2) TC74HC123
IC036 (2/2) TC74HC221
IC013 TLC2932
PFD VDD
FIN A
PFD OUT
PFD INH
PFD GND
VCO IN
VCO VDD
FIN B
R BIAS
VCO INH
DIV SEL
VCO GND
VCO OUT
L005 47µ
L006 47µ
IC038 (1/2) TC74HC123 .NM
IC038 (2/2) TC74HC123 .NM
IC014 (1/2) TC74HC123
IC037 (2/2) TC7WH241
IC037 (1/2) TC7WH241
IC036 (1/2) TC74HC221
IC015 SN74HC157
IC016 (3/6) TC74VHC04
IC016 (4/6) TC74VHC04
IC016 (6/6) TC74VHC04
IC016 (1/6) TC74VHC04
IC016 (2/6) TC74VHC04
IC016 (5/6) TC74VHC04
IC017 (1/2) TC74VHC74
IC017 (2/2) TC74VHC74
IC018 TC74VHC163
IC019 TC74VHC163
IC020 TC74VHC163
L007 47µ
VID CSYNC
VID CP IY
VID CP IUV
CP IY
CP IUV
SYNC LOST
I VGA/VID
VGA ICLK
VGA RPIHD
CN006
+5V
ISP SDO
ISP SDI
ISP EN
N.C.
ISP MODE
GND
ISP SCLK
IC010 ISPLSI1016E
IC012 (4/6) SN74HCT04
IC012 (5/6) SN74HCT04
IC012 (6/6) SN74HCT04
VGA IHD
VGA IVD
ISEL VIDEO
ISEL VGA L
ISEL VGA H
I VID/VGA
STS0
STS1
VLC0
VLC1
VGA/SVGA
VGA H/L
OSEL1
OSEL2
BLK EDGE
ISP SDO
ISEL
OSEL
G BYP
G BLANK
NTSC/PAL
BLANKSCN
G YS
ENC VD
A5VOFF
ISP SDO1
ISP MODE
VID OCLK2
ISP SCLK
ISP EN
IN0/SDI
IN1/SDO
IN2/MODE
IN3/GOE0
Y0
Y1/RESET
Y2/SCLK
NC/ISPEN
32.2
A
B
C
D
E
F
G
H

# DAD-33/33P BOARD (3/8)

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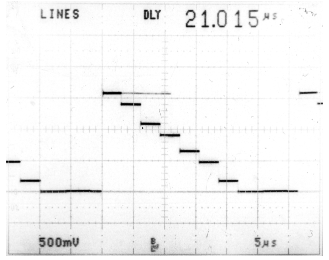
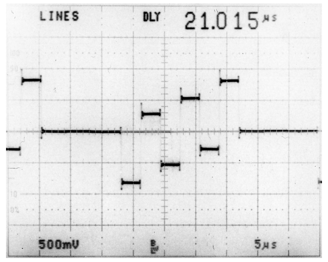
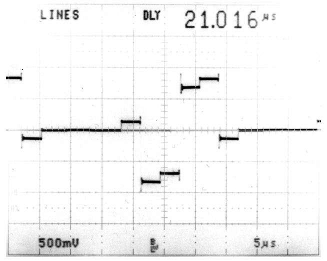
① TP14/DAD-33



② TP15/DAD-33



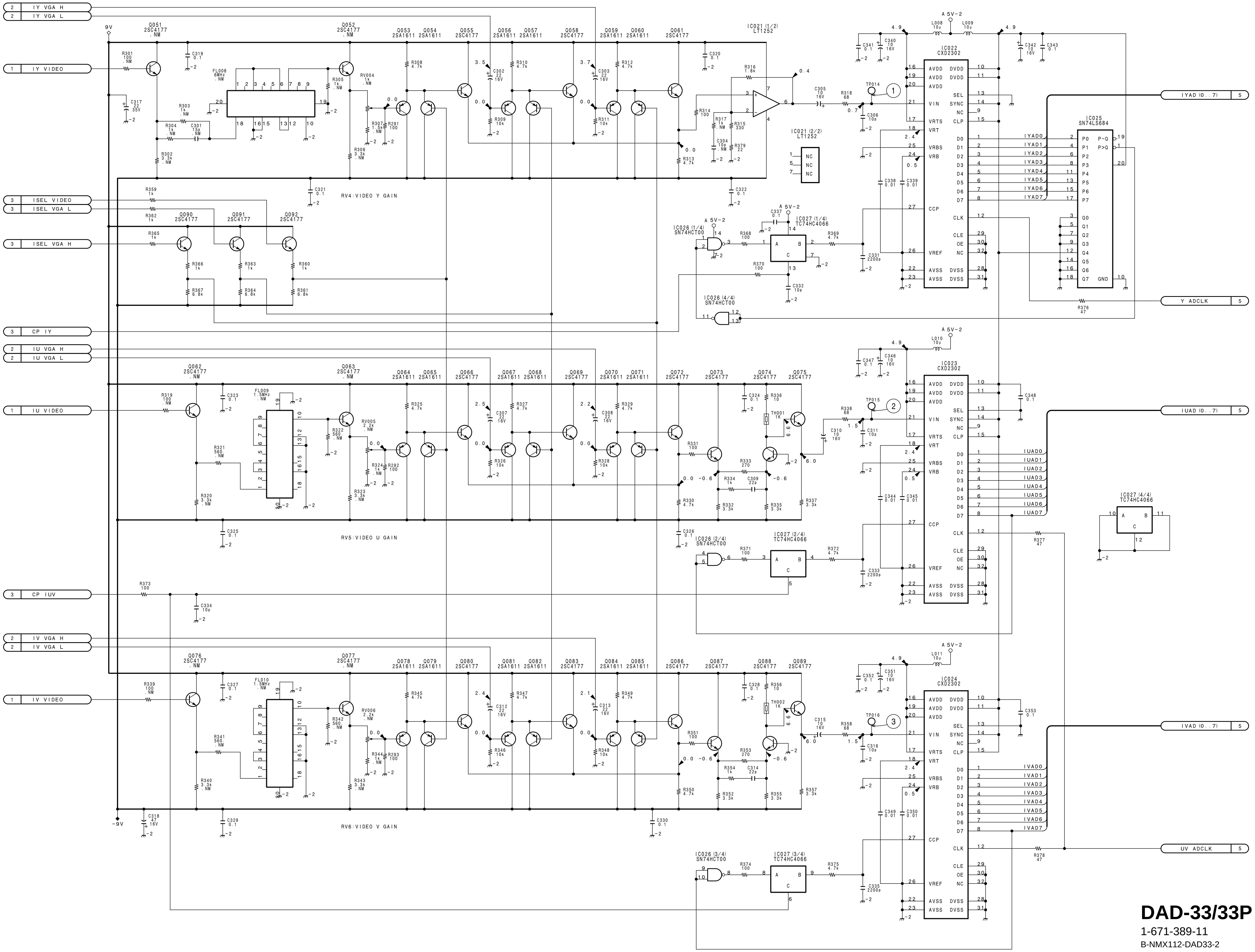
③ TP16/DAD-33



DAD-33/33P (4/8)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

## DAD-33/33P (4/8); DUAL MONITOR


IY VGA H
IY VGA L
IY VIDEO
ISEL VIDEO
ISEL VGA L
ISEL VGA H
CP IY
IU VGA H
IU VGA L
IU VIDEO
CP IUV
IV VGA H
IV VGA L
IV VIDEO
9V
-9V
RV4:VIDEO Y GAIN
RV5:VIDEO U GAIN
RV6:VIDEO V GAIN
FL008 6MHz
FL009 1.5MHz
FL010 1.5MHz
IC021 (1/2) LT1252
IC021 (2/2) LT1252
IC022 CXD2302
IC023 CXD2302
IC024 CXD2302
IC025 SN74LS684
IC026 (1/4) SN74HCT00
IC026 (2/4) SN74HCT00
IC026 (3/4) SN74HCT00
IC026 (4/4) SN74HCT00
IC027 (1/4) TC74HC4066
IC027 (2/4) TC74HC4066
IC027 (3/4) TC74HC4066
IC027 (4/4) TC74HC4066
A 5V-2
TP014
TP015
TP016
IYAD (0..7)
Y ADCLK
IUAD (0..7)
IVAD (0..7)
UV ADCLK
TH001
TH002

**DAD-33/33P** BOARD **(4/8)**

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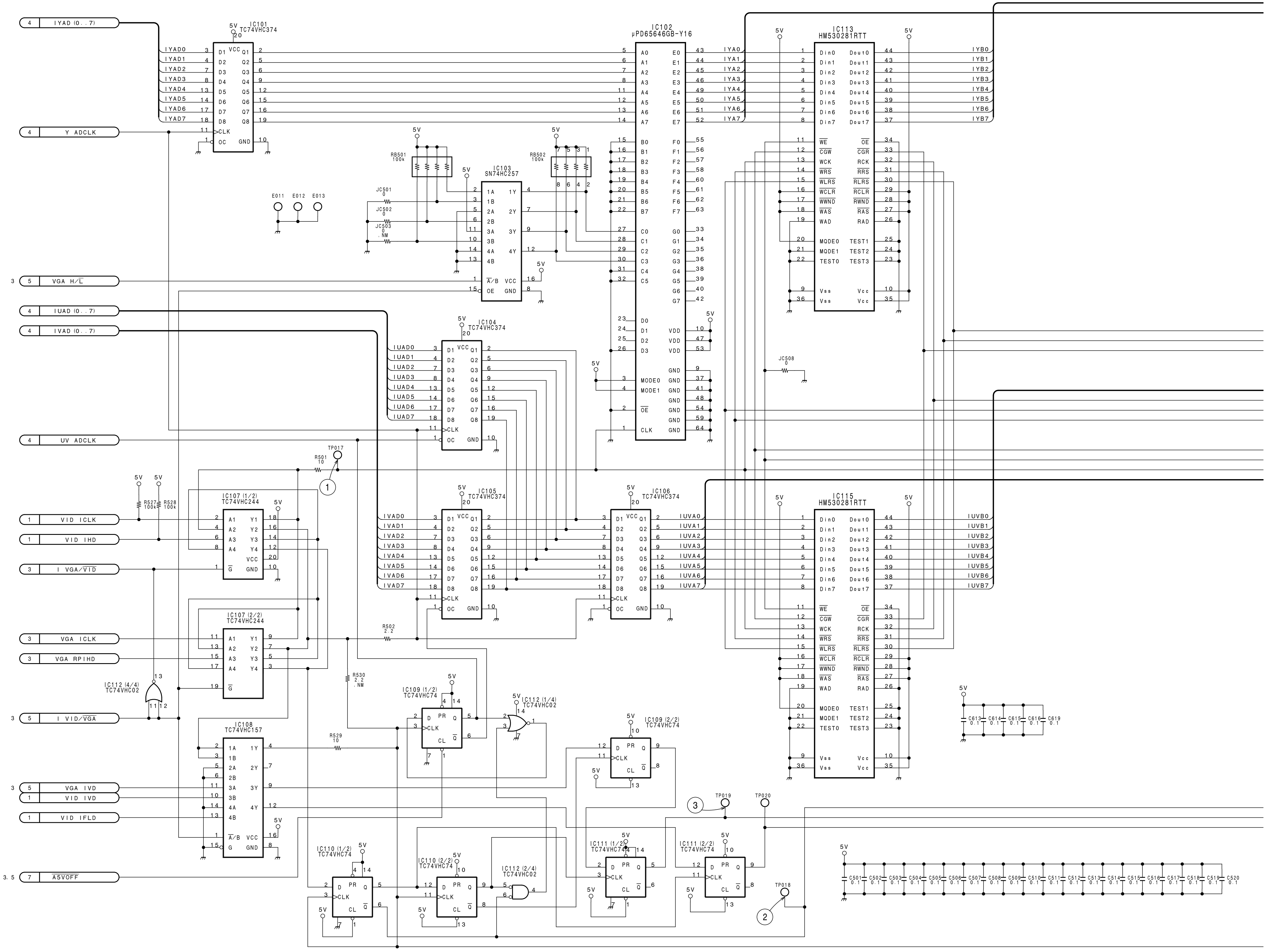
152 (PCS-5100/5100P·J, E)

## DAD-33/33P (5/8); DUAL MONITOR


1
2
3
4
5
IYAD (0..7)
Y ADCLK
VGA H/L
IUAD (0..7)
IVAD (0..7)
UV ADCLK
VID ICLK
VID IHD
I VGA/VID
VGA ICLK
VGA RPIHD
I VID/VGA
VGA IVD
VID IVD
VID IFLD
A5VOFF
IC101 TC74VHC374
IC102 μPD65646GB-Y16
IC103 SN74HC257
IC104 TC74VHC374
IC105 TC74VHC374
IC106 TC74VHC374
IC107 (1/2) TC74VHC244
IC107 (2/2) TC74VHC244
IC108 TC74VHC157
IC109 (1/2) TC74VHC74
IC109 (2/2) TC74VHC74
IC110 (1/2) TC74VHC74
IC110 (2/2) TC74VHC74
IC111 (1/2) TC74VHC74
IC111 (2/2) TC74VHC74
IC112 (1/4) TC74VHC02
IC112 (2/4) TC74VHC02
IC112 (4/4) TC74VHC02
IC113 HM530281RTT
IC115 HM530281RTT
RB501 100k
RB502 100k
JC501 0
JC502 0
JC503 0 NM
JC508 0
R501 10
R502 2.2
R527 100k
R528 100k
R529 10
R530 2.2 NM
E011
E012
E013
TP017
TP018
TP019
TP020
5V
IYB0–IYB7
IUVB0–IUVB7
IUVA0–IUVA7
IYA0–IYA7
C501–C520 0.1
C613 C614 C615 C616 C619 0.1
A
B
C
D
E
F
G
H

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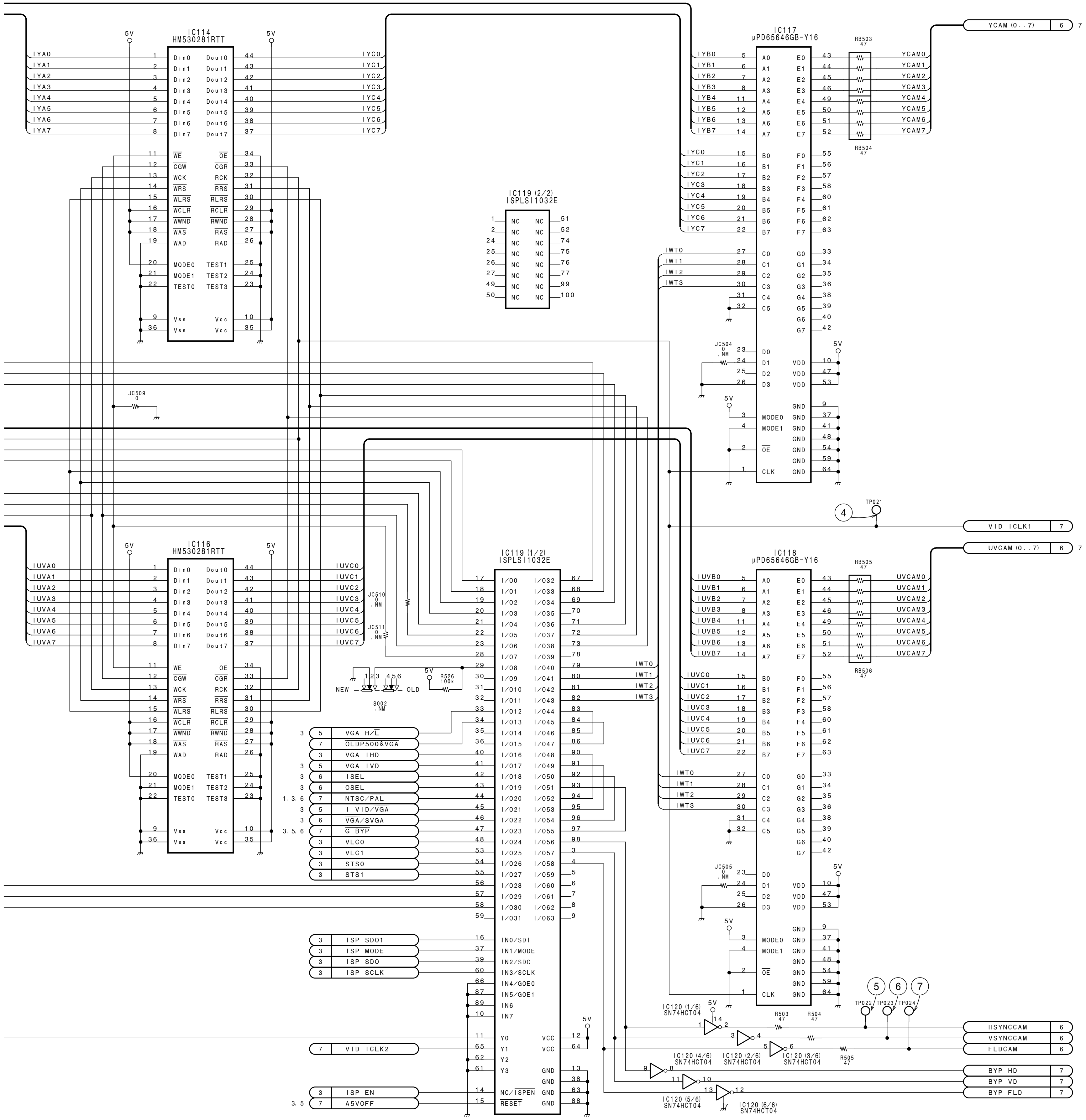
(PCS-P500/P500P SERVICE MANUAL Volume 2)

DAD-33/33P (5/8)

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |


IC114
HM530281RTT
IC116
HM530281RTT
IC117
μPD65646GB-Y16
IC118
μPD65646GB-Y16
IC119 (1/2)
ISPLSI1032E
IC119 (2/2)
ISPLSI1032E
IC120 (1/6) SN74HCT04
IC120 (2/6) SN74HCT04
IC120 (3/6) SN74HCT04
IC120 (4/6) SN74HCT04
IC120 (5/6) SN74HCT04
IC120 (6/6) SN74HCT04
RB503 47
RB504 47
RB505 47
RB506 47
JC504 0 .NM
JC505 0 .NM
JC509 0
JC510 0 .NM
JC511 0 .NM
R526 100k
R503 47
R504 47
R505 47
S002 .NM
NEW
OLD
5V
TP021
TP022
TP023
TP024
YCAM (0..7)
VID ICLK1
UVCAM (0..7)
VGA H/L
OLDP500&VGA
VGA IHD
VGA IVD
ISEL
OSEL
NTSC/PAL
I VID/VGA
VGA/SVGA
G BYP
VLC0
VLC1
STS0
STS1
ISP SDO1
ISP MODE
ISP SDO
ISP SCLK
VID ICLK2
ISP EN
A5VOFF
HSYNCCAM
VSYNCCAM
FLDCAM
BYP HD
BYP VD
BYP FLD
IWT0
IWT1
IWT2
IWT3

1

2

3

4

5

**DAD-33/33P** BOARD **(5/8)**

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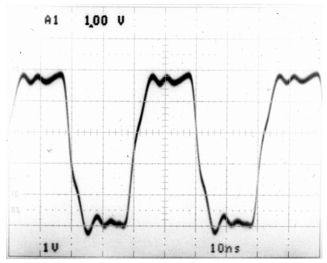
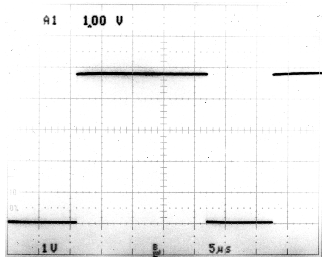
I | J | K | L | M | N | O | P

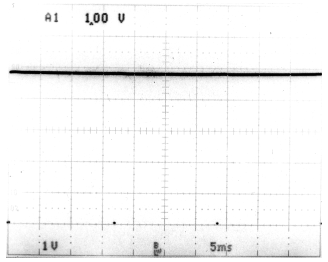
① TP17/DAD-33



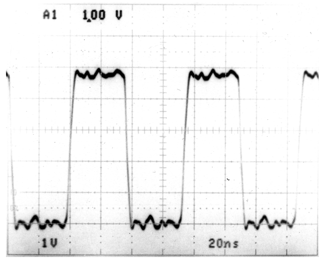
② TP18/DAD-33



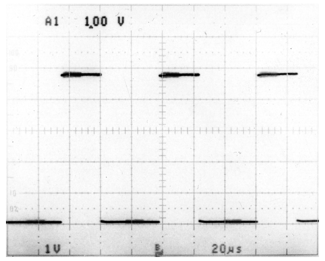
③ TP19/DAD-33



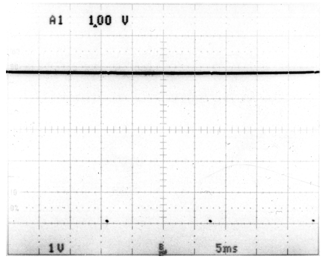
④ TP21/DAD-33



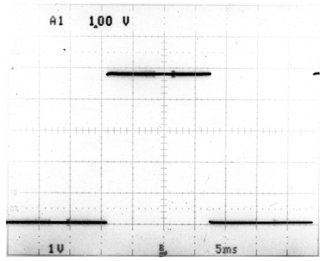
⑤ TP22/DAD-33



⑥ TP23/DAD-33



⑦ TP24/DAD-33



## DAD-33/33P (6/8); DUAL MONITOR

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

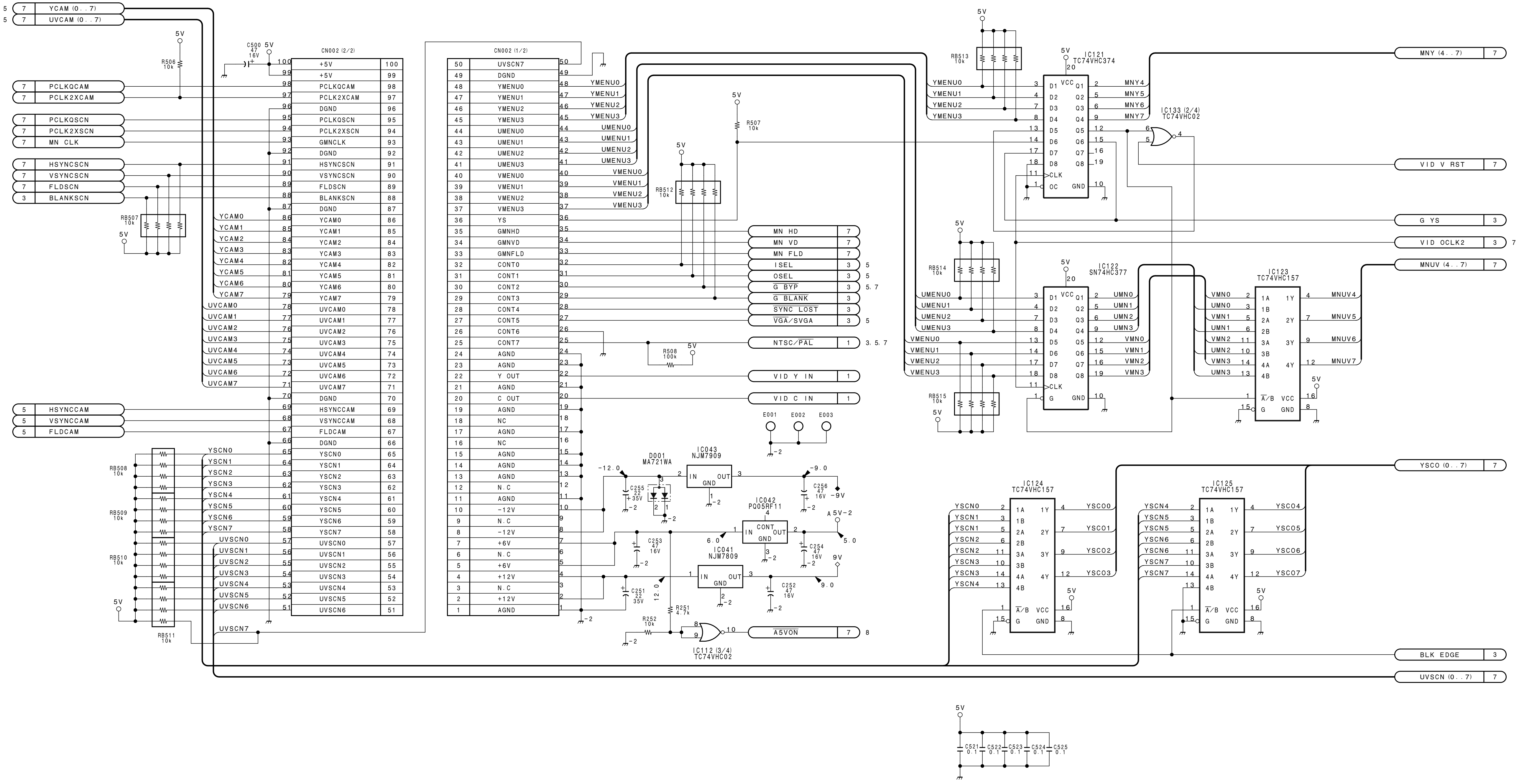
1

2

3

4

5


YCAM (0..7)
UVCAM (0..7)
PCLKQCAM
PCLK2XCAM
PCLKQSCN
PCLK2XSCN
MN CLK
HSYNCSCN
VSYNCSCN
FLDSCN
BLANKSCN
HSYNCCAM
VSYNCCAM
FLDCAM
RB506 10k
RB507 10k
RB508 10k
RB509 10k
RB510 10k
RB511 10k
C500 47 16V
CN002 (2/2)
CN002 (1/2)
+5V
DGND
GMNCLK
YSCN0
UVSCN7
YMENU0
UMENU0
VMENU0
YS
GMNHD
GMNVD
GMNFLD
CONT0
AGND
Y OUT
C OUT
-12V
+6V
+12V
N.C
RB512 10k
R507 10k
MN HD
MN VD
MN FLD
ISEL
OSEL
G BYP
G BLANK
SYNC LOST
VGA/SVGA
NTSC/PAL
R508 100k
VID Y IN
VID C IN
E001
E002
E003
D001 MA721WA
IC043 NJM7909
C255 22 35V
C256 47 16V
IC042 PQ05RF11
IC041 NJM7809
C253 47 16V
C254 47 16V
C251 22 35V
C252 47 16V
R251 4.7k
R252 10k
A5V-2
IC112 (3/4) TC74VHC02
A5VON
RB513 10k
IC121 TC74VHC374
IC133 (2/4) TC74VHC02
MNY (4..7)
VID V RST
G YS
VID OCLK2
MNUV (4..7)
RB514 10k
IC122 SN74HC377
RB515 10k
IC123 TC74VHC157
IC124 TC74VHC157
IC125 TC74VHC157
YSCO (0..7)
BLK EDGE
UVSCN (0..7)
C521 0.1
C522 0.1
C523 0.1
C524 0.1
C525 0.1

## DAD-33/33P BOARD (6/8)

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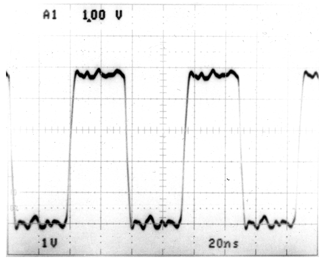
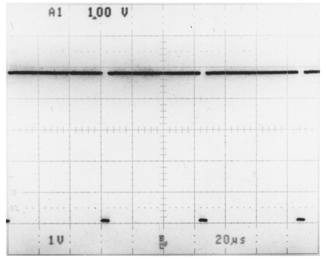
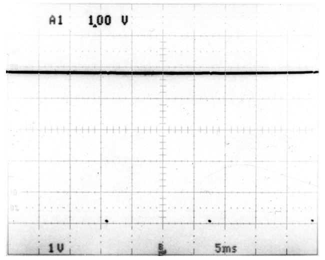
① TP25/DAD-33



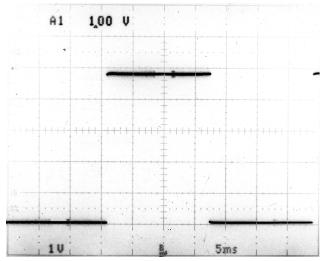
② TP26/DAD-33



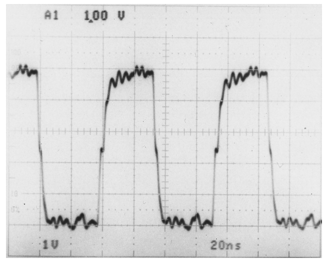
③ TP27/DAD-33



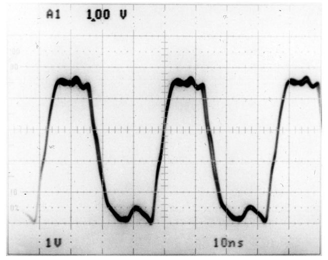
④ TP28/DAD-33



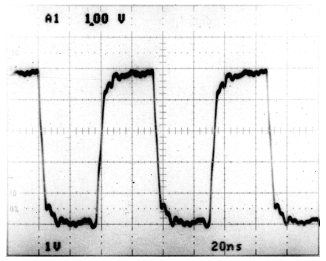
⑤ TP29/DAD-33



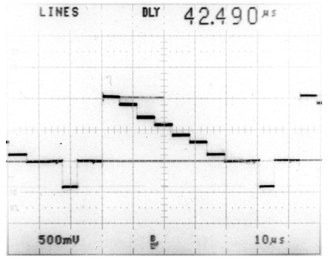
⑥ TP30/DAD-33



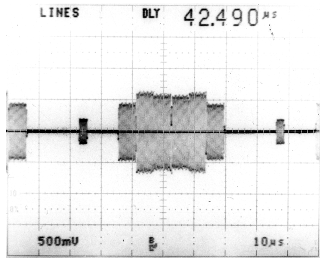
⑦ TP31/DAD-33



⑧ TP32/DAD-33

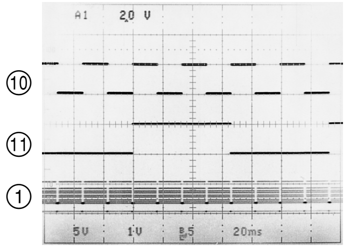


⑨ TP33/DAD-33



## For NTSC (DAD-33)

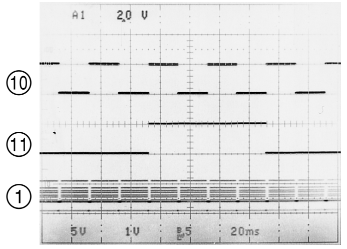
⑩ IC31-52 pin/DAD-33
⑪ IC132-9 pin/DAD-33
① TP34/DAD-33 Page 6-159



NTSC: 100/7.5/75/0 COLOR BAR

## For PAL (DAD-33P)

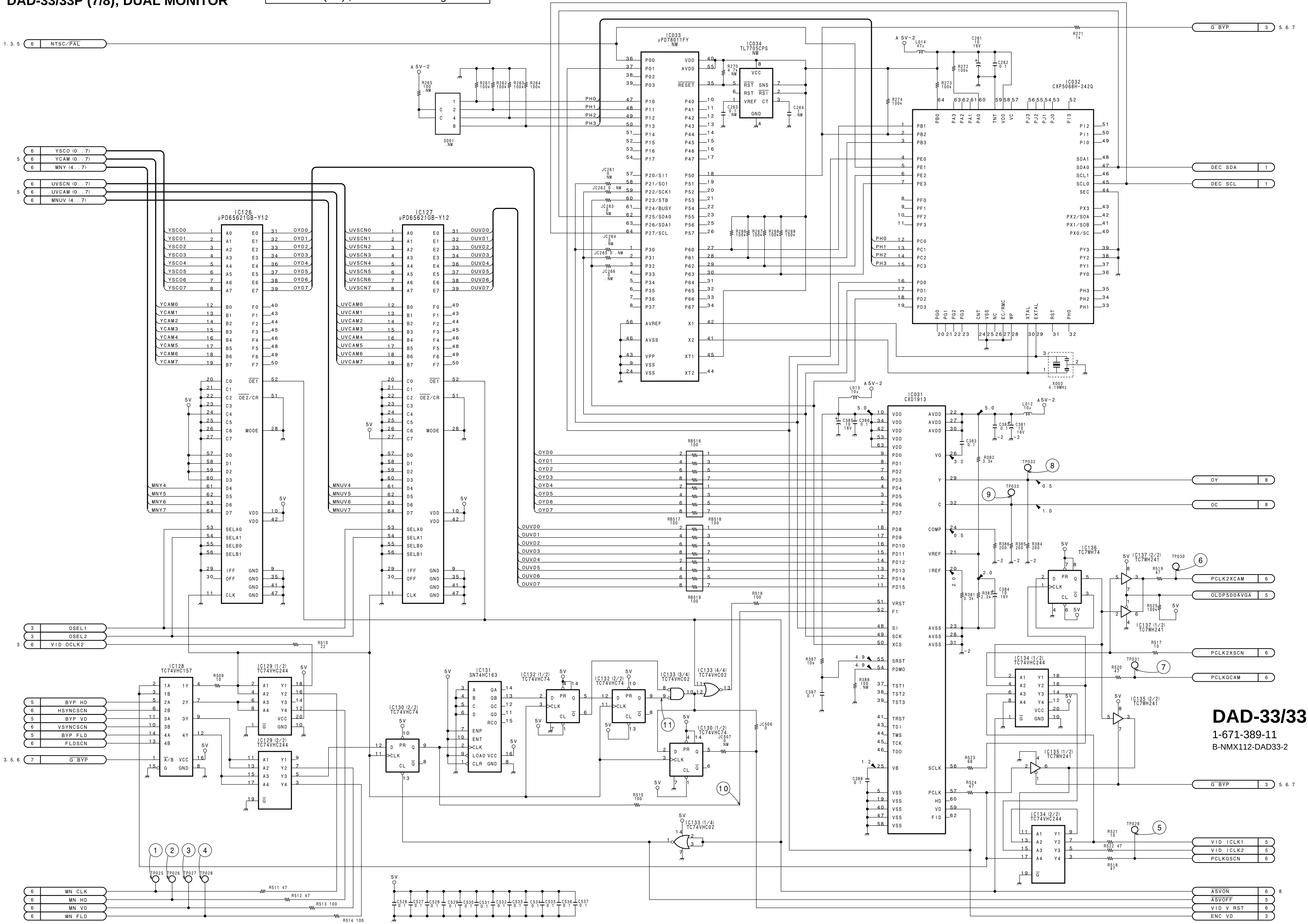
⑩ IC31-52 pin/DAD-33P
⑪ IC132-9 pin/DAD-33P
① TP34/DAD-33P Page 6-159



PAL: 100/0/75/0 COLOR BAR

| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

## DAD-33/33P (7/8); DUAL MONITOR



1
2
3
4
5
NTSC/PAL
YSCO (0..7)
YCAM (0..7)
MNY (4..7)
UVSCN (0..7)
UVCAM (0..7)
MNUV (4..7)
IC126 μPD65621GB-Y12
IC127 μPD65621GB-Y12
IC033 μPD78011FY .NM
IC034 TL7705CPS .NM
IC032 CXP5068H-242Q
IC031 CXD1913
S001 .NM
X003 4.19MHz
RB516 100
RB517 100
RB518 100
RB519 100
OSEL1
OSEL2
VID OCLK2
IC128 TC74VHC157
IC129 (1/2) TC74VHC244
IC129 (2/2) TC74VHC244
IC130 (1/2) TC74VHC74
IC130 (2/2) TC74VHC74
IC131 SN74HC163
IC132 (1/2) TC74VHC74
IC132 (2/2) TC74VHC74
IC133 (1/4) TC74VHC02
IC133 (3/4) TC74VHC02
IC133 (4/4) TC74VHC02
IC134 (1/2) TC74VHC244
IC134 (2/2) TC74VHC244
IC135 (1/2) TC7WH241
IC135 (2/2) TC7WH241
IC136 TC7WH74
IC137 (1/2) TC7WH241
IC137 (2/2) TC7WH241
BYP HD
HSYNCSCN
BYP VD
VSYNCSCN
BYP FLD
FLDSCN
G BYP
MN CLK
MN HD
MN VD
MN FLD
TP025
TP026
TP027
TP028
TP029
TP030
TP031
TP032
TP033
DEC SDA
DEC SCL
OY
OC
PCLK2XCAM
OLDP500AVGA
PCLK2XSCN
PCLKQCAM
VID ICLK1
VID ICLK2
PCLKQSCN
A5VON
A5VOFF
VID V RST
ENC VD
A 5V-2
5V

**DAD-33/33P** BOARD **(7/8)**

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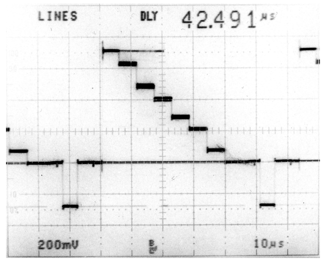
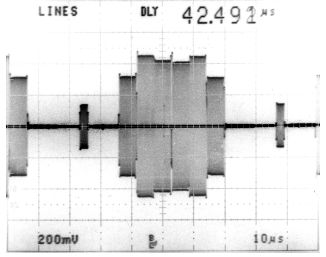
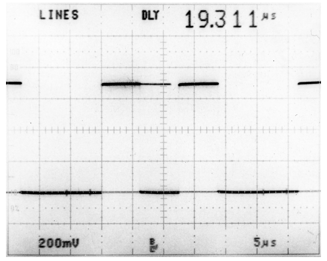
① TP34/DAD-33



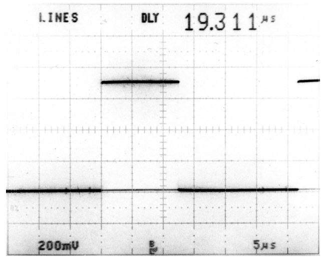
② TP35/DAD-33



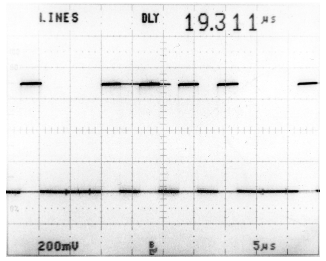
③ TP36/DAD-33



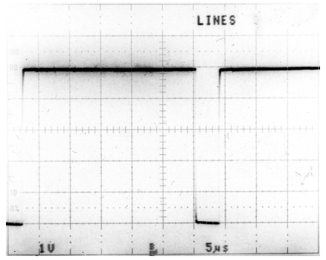
④ TP37/DAD-33



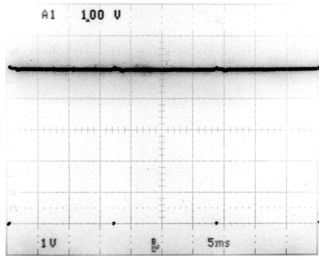
⑤ TP38/DAD-33



⑥ TP39/DAD-33

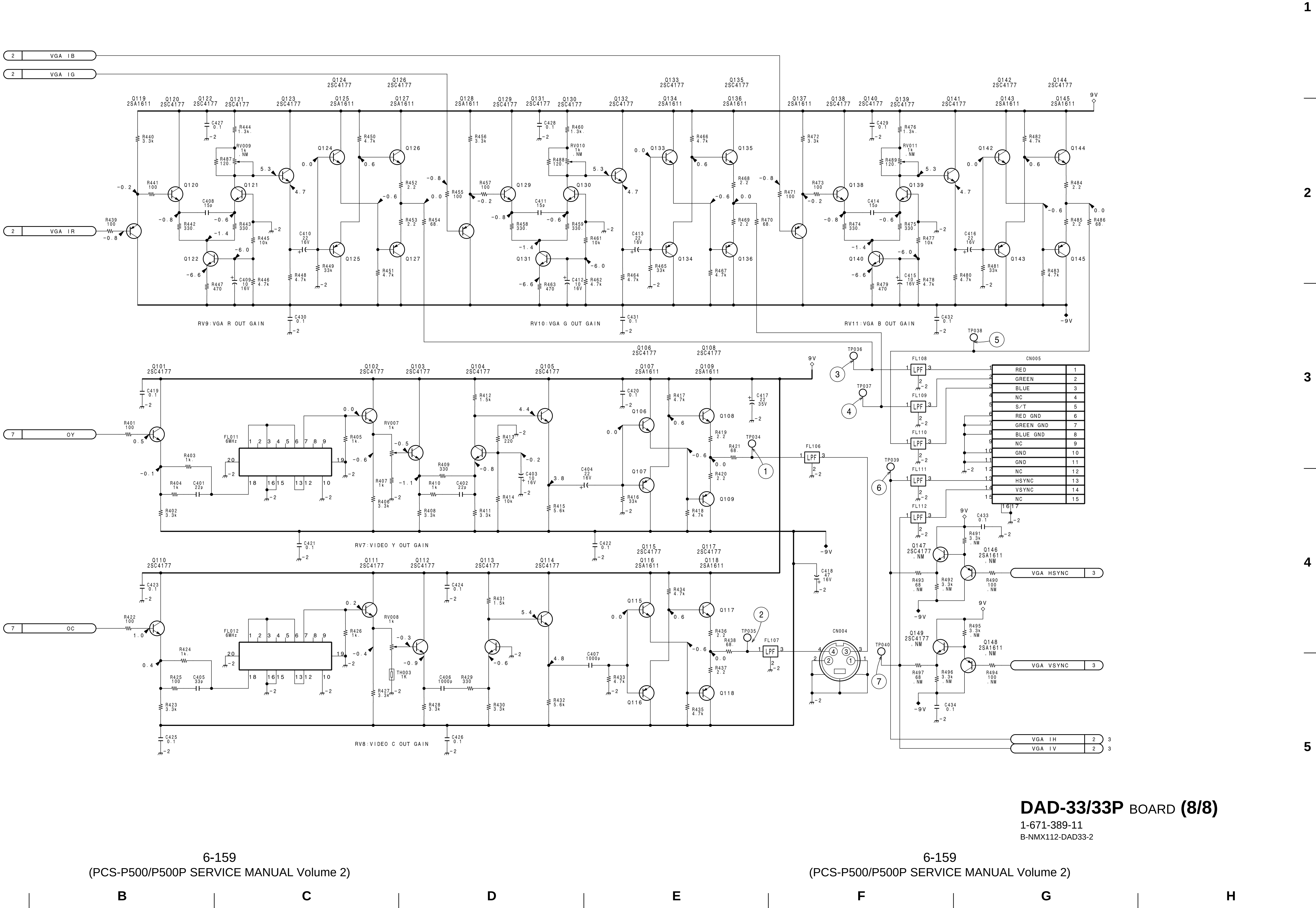


⑦ TP40/DAD-33



| | |
|---|---|
| PCS-G510 (J) ; | S/N 30001 through 30040 |
| PCS-G510 (UC) ; | S/N 10001 through 10110 |
| PCS-G510 (CE) ; | S/N 40001 through 40170 |

## DAD-33/33P (8/8); DUAL MONITOR


1
2
3
4
5
A
B
C
D
E
F
G
H
VGA IB
VGA IG
VGA IR
OY
OC
VGA HSYNC
VGA VSYNC
VGA IH
VGA IV
9V
-9V
RV9:VGA R OUT GAIN
RV10:VGA G OUT GAIN
RV11:VGA B OUT GAIN
RV7:VIDEO Y OUT GAIN
RV8:VIDEO C OUT GAIN
Q119 2SA1611
Q120 2SC4177
Q122 2SC4177
Q121 2SC4177
Q123 2SC4177
Q124 2SC4177
Q125 2SA1611
Q126 2SC4177
Q127 2SA1611
Q128 2SA1611
Q129 2SC4177
Q131 2SC4177
Q130 2SC4177
Q132 2SC4177
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Q107 2SA1611
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Q112 2SC4177
Q113 2SC4177
Q114 2SC4177
Q115 2SC4177
Q116 2SA1611
Q117 2SC4177
Q118 2SA1611
Q147 2SC4177 .NM
Q146 2SA1611 .NM
Q149 2SC4177 .NM
Q148 2SA1611 .NM
RV009 1k .NM
RV010 1k .NM
RV011 1k .NM
RV007 1k
RV008 1k
FL011 6MHz
FL012 6MHz
FL106
FL107
FL108
FL109
FL110
FL111
FL112
LPF
TH003 1K
TP034
TP035
TP036
TP037
TP038
TP039
TP040
CN004
CN005
RED
GREEN
BLUE
NC
S/T
RED GND
GREEN GND
BLUE GND
NC
GND
GND
NC
HSYNC
VSYNC
NC

**DAD-33/33P** BOARD **(8/8)**
1-671-389-11
B-NMX112-DAD33-2

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(PCS-P500/P500P SERVICE MANUAL Volume 2)

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